

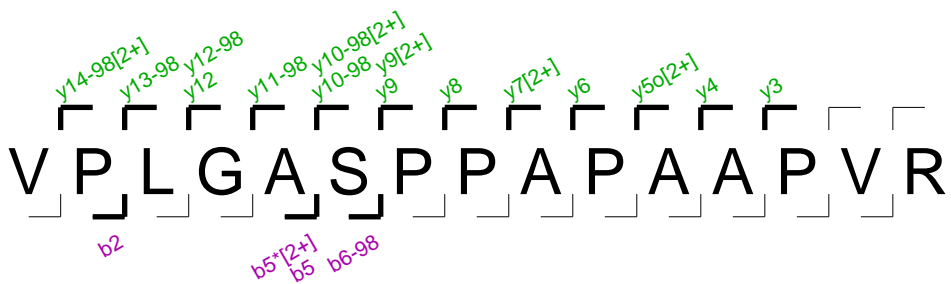
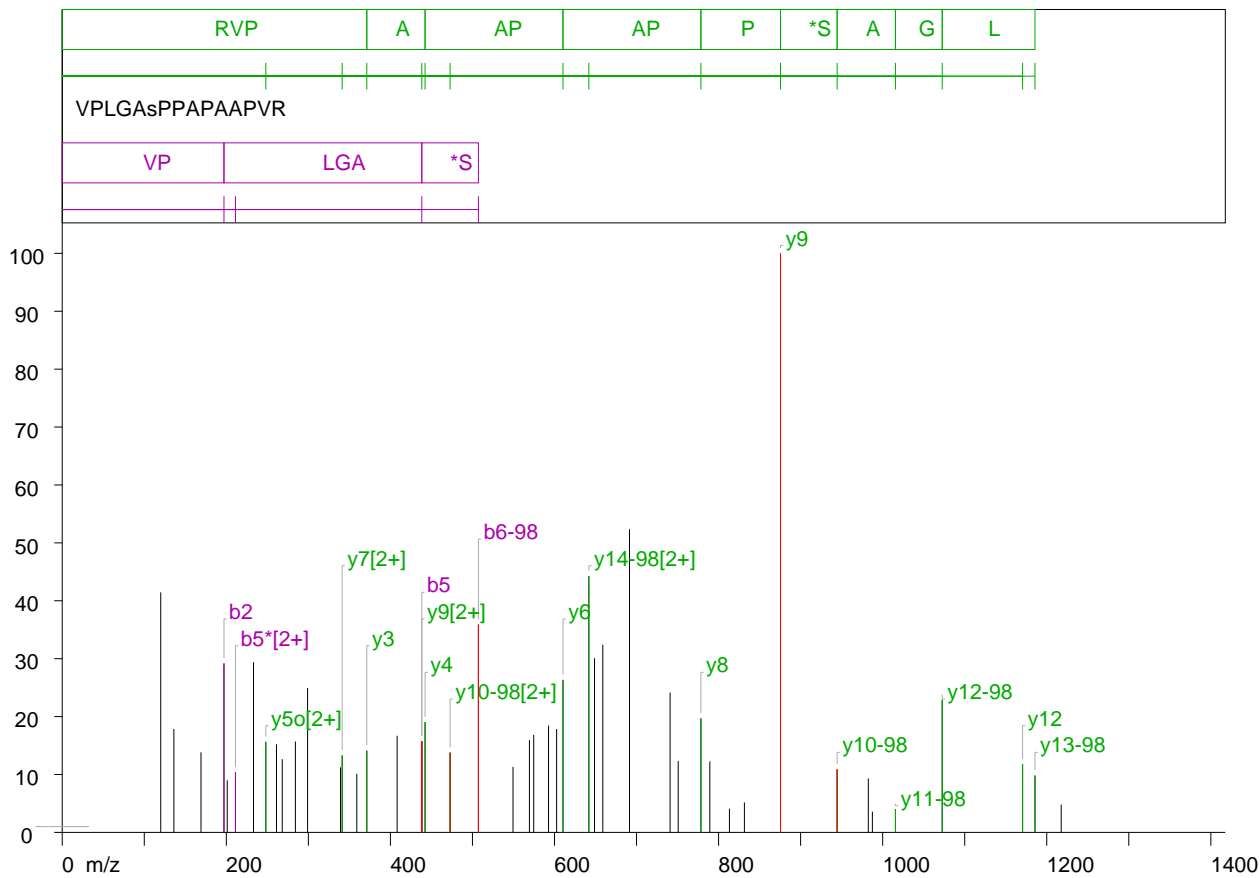
# MS/MS spectra

MS/MS spectra of  
phosphorylated  
peptides in rat cav3.2  
(brain)

**S18**

# ProPhosSI MS/MS report

Mass: 740.389086 Charge: 2+



## Cav3.2 Rat

(41) 13 VPLGAsPPAPAAPVR 27 1478.764 (-0.0021) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
6	(18)	Phospho (ST)	b5 => b6-98 : y9 => y10-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	6 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b5 to b6-98, transition y9 to y10-98 support unique phosphorylation at position 6  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y6 to y9.
Five of six sequential ions present	1/1	Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13 Five of Six ions found between y9 and y14 Five of Six ions found between y10 and y15
Proline directed fragmentation pattern	6/7	PASS: y14-98> y13-98 with ratio 4.50  FAIL: b2> b1 NOTE: S-P is a low abundance fragmentation. PASS: y9> y8 with ratio 5.07  PASS: b7-98< b6-98  NOTE: P-P is a low abundance fragmentation. PASS: y8> y7 with ratio 1.48  No proline ions at b8-98  PASS: y6> y5  No proline ions at b10-98  PASS: y3> y2  No proline ions at b13-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 875.5004661: intensity: 62122.6171875) assigned 1 times ion 2 (mass: 691.4057587: intensity: 32528.095703125) assigned 0 times ion 3 (mass: 641.8702343: intensity: 27487.3515625) assigned 1 times ion 4 (mass: 120.0811884: intensity: 25752.666015625) assigned 0 times ion 5 (mass: 507.2983345: intensity: 22283.52734375) assigned 1 times ion 6 (mass: 658.8970939: intensity: 20143.84375) assigned 0 times ion 7 (mass: 648.8113496: intensity: 18689.689453125) assigned 0 times ion 8 (mass: 233.165799: intensity: 18262.75390625) assigned 0 times ion 9 (mass: 197.1286292: intensity: 18127.21875) assigned 2 times ion 10 (mass: 610.3689763: intensity: 16366.58984375) assigned 1 times

## Ion Table

19 ions assigned of 46 ions above threshold (41%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
V	1	100.076	83.049	-	82.065
P	2	197.129 *197.1286292 (29)	180.102	-	179.118
L	3	310.213	293.186	-	292.202
G	4	367.234	350.208	-	349.223
A	5	438.271 *438.2611016 (15)	421.245 211.1435126 [2+] (10)	-	420.261
s	6	605.270	588.243	507.284 507.2983345 (35)	587.259
P	7	702.322	685.296	604.336	684.312
P	8	799.375	782.349	701.389	781.364
A	9	870.412	853.386	772.426	852.402
P	10	967.465	950.438	869.479	949.454
A	11	1038.502	1021.476	940.516	1020.491
A	12	1109.539	1092.513	1011.553	1091.529
P	13	1206.592	1189.565	1108.606	1188.581
V	14	1305.660	1288.634	1207.674	1287.650
R	15	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
V	15	-	-	-	-
P	14	1380.704	1363.677	1282.718 641.8702343 [2+] (44)	1362.693
L	13	1283.651	1266.624	1185.665 1185.674514 (9)	1265.640
G	12	1170.567 1170.5635 (11)	1153.540	1072.581 1072.581516 (22)	1152.556
A	11	1113.545	1096.519	1015.559 1015.574351 (4)	1095.535
s	10	1042.508	1025.482	944.522 944.5124988 (10) 472.7742146 [2+] (13)	1024.498
P	9	875.510 875.5004661 (100) *438.2611016 [2+] (15)	858.483	-	857.499
P	8	778.457 778.4585997 (19)	761.431	-	760.447
A	7	681.404 341.2199303 [2+] (13)	664.378	-	663.394
P	6	610.367 610.3689763 (26)	593.341	-	592.357
A	5	513.314	496.288	-	495.304 248.1598059 [2+] (15)
A	4	442.277 442.2774596 (19)	425.251	-	424.267
P	3	371.240 371.2399156 (14)	354.214	-	353.230
V	2	274.187	257.161	-	256.177
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	46	19	41
0.5	46	19	41
1	46	19	41
2	46	19	41
3	46	19	41
4	45	19	42
5	42	18	42
10	38	17	44

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
120.0811884	25752.666015625,	41.45	
136.0762578	11093.0107421875,	17.85	
169.1347392	8590.33984375,	13.82	a2 (0.00)
197.1286292	18127.21875,	29.17	b2 (-0.00) : a5*[2+] (-0.00)
201.1232249	5594.9008789063,	9.00	
211.1435126	6451.3168945313,	10.38	b5*[2+] (0.01)
233.165799	18262.75390625,	29.39	
248.1598059	9721.109375,	15.64	y5o[2+] (0.00)
261.1599771	9445.4921875,	15.20	
268.1634305	7854.0751953125,	12.64	
284.1978554	9755.2666015625,	15.70	
299.0608804	15498.74609375,	24.94	
339.2022919	6978.8383789063,	11.23	
341.2199303	8264.478515625,	13.30	y7[2+] (0.01)
359.0276304	6281.46875,	10.11	
371.2399156	8769.1171875,	14.11	y3 (-0.00)
408.2265202	10368.748046875,	16.69	
438.2611016	9797.49609375,	15.77	y9[2+] (0.00) : b5 (-0.01)
442.2774596	11829.3369140625,	19.04	y4 (-0.00)
472.7742146	8564.607421875,	13.78	y10-98[2+] (0.00)
507.2983345	22283.52734375,	35.87	b6-98 (0.01)
549.4394365	7020.1982421875,	11.30	
569.452263	9903.9033203125,	15.94	
574.681702	10468.7734375,	16.85	
592.7517013	11451.5283203125,	18.43	
602.6048664	11087.958984375,	17.84	
610.3689763	16366.58984375,	26.34	y6 (0.00)
641.8702343	27487.3515625,	44.24	y14-98[2+] (0.00)
648.8113496	18689.689453125,	30.08	
658.8970939	20143.84375,	32.42	

691.4057587	32528.095703125,	52.36	
740.9079715	15009.705078125,	24.16	
750.778943	7653.2421875,	12.31	
778.4585997	12239.376953125,	19.70	y8 (0.00)
789.35457	7627.2739257813,	12.27	
813.231229	2544.5498046875,	4.09	
831.4588218	3214.435546875,	5.17	
875.5004661	62122.6171875,	100	y9 (-0.00)
944.5124988	6761.0180664063,	10.88	y10-98 (-0.01)
982.5148384	5793.5854492188,	9.32	
987.440579	2226.17578125,	3.58	
1015.574351	2494.4206542969,	4.01	y11-98 (0.01)
1072.581516	14224.02734375,	22.89	y12-98 (0.00)
1170.5635	7314.1987304688,	11.77	y12 (-0.00)
1185.674514	6106.4389648438,	9.82	y13-98 (0.00)
1217.633573	2981.9973144531,	4.80	



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## Cav3.2 Rat

(23) 13 VPLGASPPAPAAPVRAsPASPAPGR 38 2427.242 Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
17	(29)	Phospho (ST)	y8=>y13-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	9 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y8 to y13-98 support unique phosphorylation at position 17  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b3 to b6.
Five of six sequential ions present	1/1	Five of Six ions found between b2 and b7 Five of Six ions found between b3 and b8 Five of Six ions found between b4 and b9 Five of Six ions found between y19 and y24 Five of Six ions found between y20 and y25
Proline directed fragmentation pattern	8/11	FAIL: y25-98< y24-98 No proline ions at b2  NOTE: S-P is a low abundance fragmentation. PASS: y20-98> y19-98 with ratio 20.8  PASS: b7< b6 with ratio 8.35  NOTE: P-P is a low abundance fragmentation. PASS: y19-98> y18-98  PASS: b8< b7  PASS: y17-98> y16-98  PASS: b10< b9  FAIL: y14-98< y13-98 No proline ions at b13  NOTE: S-P is a low abundance fragmentation. FAIL: y9< y8 No proline ions at b18-98  NOTE: S-P is a low abundance fragmentation. PASS: y6> y5  No proline ions at b21-98  PASS: y3> y2  No proline ions at b24-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 952.7352295: intensity: 23419.04296875) assigned 1 times ion 2 (mass: 903.7352295: intensity: 13923.27734375) assigned 2 times ion 3 (mass: 635.6049805: intensity: 7219.5546875) assigned 0 times ion 4 (mass: 996.2458496: intensity: 6968.00390625) assigned 1 times ion 5 (mass: 953.6113281: intensity: 6837.4541015625) assigned 0 times ion 6 (mass: 904.5695801: intensity: 6080.0546875) assigned 1 times ion 7 (mass: 790.5495605: intensity: 5031.9091796875) assigned 1 times ion 8 (mass: 744.7149658: intensity: 3943.1440429688) assigned 1 times ion 9 (mass: 947.190918: intensity: 3759.1779785156) assigned 1 times ion 10 (mass: 525.4376831: intensity: 3489.5012207031) assigned 1 times

## Ion Table

63 ions assigned of 90 ions above threshold (70%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
V	1	100.076	83.049	-	82.065
P	2	197.129	180.102	-	179.118
L	3	310.213 310.2914734 (1)	293.186	-	292.202 *292.2433167 (1)
G	4	367.234 367.213501 (1)	350.208	-	349.223
A	5	438.271 438.291687 (3)	421.245	-	420.261
S	6	525.303 525.4376831 (14)	508.277 508.3764648 (3)	-	507.293 *507.3612061 (9)
P	7	622.356 *311.2166138 [2+] (1) *312.1858521 [2+] (1)	605.329	-	604.345 *604.213623 (2)
P	8	719.409	702.382	-	701.398 701.1758423 (2)
A	9	790.446 790.5495605 (21)	773.419	-	772.435
P	10	887.499	870.472 436.2650757 [2+] (7)	-	869.488
A	11	958.536 *479.335968 [2+] (1)	941.509	-	940.525
A	12	1029.573	1012.546 *1012.06189 (5) *507.3612061 [2+] (9)	-	1011.562 *1011.223389 (10) *1012.06189 (5)
P	13	1126.626	1109.599 *555.3710938 [2+] (3)	-	1108.615 *555.3710938 [2+] (3) *554.3131104 [2+] (11)
V	14	1225.694	1208.668	-	1207.684 *604.213623 [2+] (2)
R	15	1381.795 *691.8182373 [2+] (4)	1364.769	-	1363.785
A	16	1452.832	1435.806	-	1434.822
s	17	1619.831	1602.804 *801.3063965 [2+] (3)	1521.845	1601.820 *801.3063965 [2+] (3)
P	18	1716.883	1699.857	1618.898	1698.873
A	19	1787.921 *894.6916504 [2+] (8)	1770.894	1689.935	1769.910
S	20	1874.953	1857.926	1776.967	1856.942
P	21	1972.005	1954.979	1874.019	1953.995
G	22	2029.027	2012.000	1931.041	2011.016
A	23	2100.064 *1050.728516 [2+] (3)	2083.037	2002.078	2082.053
P	24	2197.117	2180.090	2099.131	2179.106
G	25	2254.138	2237.112	2156.152	2236.128
R	26	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
V	26	-	-	-	-
P	25	2329.181	2312.155	2231.196 *1116.449951 [2+] (6)	2311.171
L	24	2232.129	2215.102	2134.143	2214.118

-	-	*1116.449951 [2+] (6)	*1107.873291 [2+] (2)	1067.805054 [2+] (8)	*1107.873291 [2+] (2)
G	23	2119.045 1059.937866 [2+] (7)	2102.018	2021.059 *1011.223389 [2+] (10)	2101.034 *1050.728516 [2+] (3)
A	22	2062.023 1031.693726 [2+] (7)	2044.997	1964.037	2044.013
S	21	1990.986 996.2458496 [2+] (29)	1973.959 *987.7427979 [2+] (5)	1893.000 947.190918 [2+] (16)	1972.975
P	20	1903.954 952.7352295 [2+] (100)	1886.927 *943.7270508 [2+] (12)	1805.968 *903.7352295 [2+] (59)	1885.943 *943.7270508 [2+] (12)
P	19	1806.901 *903.7352295 [2+] (59)	1789.875 *895.5144043 [2+] (4)	1708.915 854.755249 [2+] (2)	1788.891 *894.6916504 [2+] (8) *895.5144043 [2+] (4)
A	18	1709.848 855.5913086 [2+] (12)	1692.822 *846.6206055 [2+] (2)	1611.863	1691.838 *846.6206055 [2+] (2)
P	17	1638.811 820.3164063 [2+] (5)	1621.785	1540.825 *771.2575684 [2+] (5)	1620.801
A	16	1541.759 *771.2575684 [2+] (5)	1524.732	1443.773	1523.748
A	15	1470.721	1453.695	1372.736	1452.711
P	14	1399.684 *700.4591064 [2+] (2)	1382.658 *691.8182373 [2+] (4)	1301.698 *651.9412231 [2+] (1)	1381.674 *691.8182373 [2+] (4)
V	13	1302.632 *651.9412231 [2+] (1)	1285.605	1204.646 603.0700073 [2+] (10)	1284.621
R	12	1203.563	1186.537	1105.577	1185.553
A	11	1047.462	1030.435	949.476	1029.451
s	10	976.425	959.398	878.439	958.414 *479.335968 [2+] (1)
P	9	809.427	792.400 *792.5715332 (7)	-	791.416 791.5098877 (7)
A	8	712.374 712.2622681 (3)	695.347	-	694.363
S	7	641.337 641.3455811 (3)	624.310 *312.1858521 [2+] (1)	-	623.326 *312.1858521 [2+] (1)
P	6	554.305 *554.3131104 (11)	537.278	-	536.294 268.203949 [2+] (2)
G	5	457.252	440.225	-	439.241
A	4	400.230	383.204	-	382.220
P	3	329.193 329.3317566 (2)	312.167 *312.1858521 (1)	-	311.183 *311.2166138 (1)
G	2	232.140	215.114	-	214.130
R	1	175.119	158.092	-	157.108

## Ion distribution

Threshold	Ion count	Matches	% matched
0	132	80	60
0.5	124	74	59
1	105	68	64
2	74	53	71
3	55	41	74
4	42	32	76
5	37	28	75
10	17	14	82

Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
266.2089844	276.302947998	1.17	
268.203949	487.2700805664	2.08	y6o[2+] (-0.44)
269.2924805	349.4795227051	1.49	y6*[2+] (0.14) : z6[2+] (0.14)
292.2433167	444.5546875	1.89	x6[2+] (0.58) : b3o (0.04)
310.2914734	410.3699951172	1.75	b3 (0.07)
311.2166138	417.7741699219	1.78	y3o (0.03) : b7[2+] (-0.46)
312.1858521	415.9727783203	1.77	b7[2+] (0.50) : y3* (0.01) : z3 (0.01) : y7o[2+] (0.01) : z7[2+] (-0.47) : y7*[2+] (-0.47)
329.3317566	634.3988647461	2.70	y3 (0.13)
337.3043823	241.9138031006	1.03	a8o[2+] (0.09) : a8*[2+] (-0.39)
339.3014832	1120.9458007813	4.78	a4 (0.06)
365.2946777	263.8448486328	1.12	
367.213501	416.04296875	1.77	b4 (-0.02)
398.2878418	251.7483520508	1.07	
408.2564087	393.1322631836	1.67	
409.3639832	324.955078125	1.38	
410.3105164	683.9563598633	2.92	a5 (0.03)
426.24823	707.6258544922	3.02	
427.2878418	271.129699707	1.15	
436.2650757	1816.3032226563	7.75	b10*[2+] (0.52)
438.291687	897.6844482422	3.83	b5 (0.02)
463.3316345	372.9010009766	1.59	
479.335968	429.1842651367	1.83	a6o (0.03) : y10o[2+] (-0.37) : b11[2+] (-0.43)
481.3509827	514.9075317383	2.19	
497.3687744	860.6733398438	3.67	a6 (0.05)
499.5850525	761.9863891602	3.25	
507.3612061	2301.4807128906	9.82	b12*[2+] (0.58) : b6o (0.06)
508.3764648	772.1566162109	3.29	b6* (0.09)
525.4376831	3489.5012207031	14.90	b6 (0.13)
526.3417358	840.4647827148	3.58	
554.3131104	2697.4147949219	11.51	y6 (0.00) : b13o[2+] (-0.49)
555.3710938	718.3114013672	3.06	b13o[2+] (0.55) : b13*[2+] (0.06)
583.6594238	275.5367126465	1.17	
592.3424072	291.6222229004	1.24	
596.8339844	371.4857788086	1.58	
603.0700073	2498.6655273438	10.66	y13-98[2+] (0.24)
604.213623	628.5274047852	2.68	b7o (-0.13) : b14o[2+] (-0.13)
605.4224243	264.7172241211	1.13	b14*[2+] (0.58) : b7* (0.09)
629.3730469	826.6108398438	3.52	
635.6049805	7219.5546875	30.82	
636.5630493	416.5586853027	1.77	
641.3455811	866.1926879883	3.69	y7 (0.00)

642.3646851	340.0477600098,	1.45	y13o[2+] (-0.44)
651.9412231	427.5472412109,	1.82	y14-98[2+] (0.58) : y13[2+] (0.12)
663.4974365	554.2814331055,	2.36	
673.8565674	424.4962158203,	1.81	a8o (0.45) : a8* (-0.53)
677.6367188	540.478515625,	2.30	a15[2+] (0.23)
691.8182373	1066.9110107422,	4.55	y14o[2+] (0.47) : b15[2+] (0.41) : a8 (0.40) : y14*[2+] (-0.01) : z14[2+] (-0.01)
700.4591064	549.6945800781,	2.34	c15[2+] (0.54) : y14[2+] (0.11)
701.1758423	597.416015625,	2.55	b8o (-0.22)
706.2801514	518.1684570313,	2.21	
712.2622681	736.9644165039,	3.14	y8 (-0.11)
730.5428467	610.1337890625,	2.60	
732.4550781	518.559387207,	2.21	
738.7167969	1071.2553710938,	4.57	
744.7149658	3943.1440429688,	16.83	a9o (0.27)
750.1541748	2916.2158203125,	12.45	x15[2+] (0.29)
752.5794678	1471.5670166016,	6.28	
771.2575684	1213.443359375,	5.18	y17-98[2+] (0.34) : y16[2+] (-0.12)
788.4609375	830.3670654297,	3.54	a17*[2+] (0.55)
790.5495605	5031.9091796875,	21.48	b9 (0.10)
791.5098877	1767.1743164063,	7.54	y9o (0.09)
792.5715332	1773.0881347656,	7.57	z9 (0.17) : y9* (0.17)
798.4227295	1713.2215576172,	7.31	
801.3063965	841.5447998047,	3.59	b17o[2+] (-0.10) : b17*[2+] (-0.59)
820.3164063	1207.5725097656,	5.15	y17[2+] (0.40)
821.2232666	318.2019042969,	1.35	
840.2712402	394.5956420898,	1.68	
846.6206055	684.8620605469,	2.92	y18o[2+] (0.19) : y18*[2+] (-0.29) : z18[2+] (-0.29)
854.755249	668.2221679688,	2.85	y19-98[2+] (-0.20)
855.5913086	2931.4663085938,	12.51	y18[2+] (0.16)
863.7662354	411.4609069824,	1.75	
871.2175293	519.3505859375,	2.21	a19o[2+] (-0.24)
880.7216797	436.9247436523,	1.86	a19[2+] (0.25)
894.6916504	1951.9211425781,	8.33	b19[2+] (0.22) : y19o[2+] (-0.25)
895.5144043	1126.9504394531,	4.81	y19o[2+] (0.56) : y19*[2+] (0.07) : z19[2+] (0.07)
903.7352295	13923.27734375,	59.45	y20-98[2+] (0.24) : y19[2+] (-0.21)
904.5695801	6080.0546875,	25.96	c10 (0.04)
912.7540283	957.983215332,	4.09	a11o (0.22)
930.3392334	1977.0543212891,	8.44	a11 (-0.20)
936.8227539	2315.1467285156,	9.88	
943.7270508	3006.5444335938,	12.83	y20o[2+] (0.25) : y20*[2+] (-0.24) : z20[2+] (-0.24)
947.190918	3759.1779785156,	16.05	y21-98[2+] (0.18)
952.7352295	23419.04296875,	100	y20[2+] (0.25)

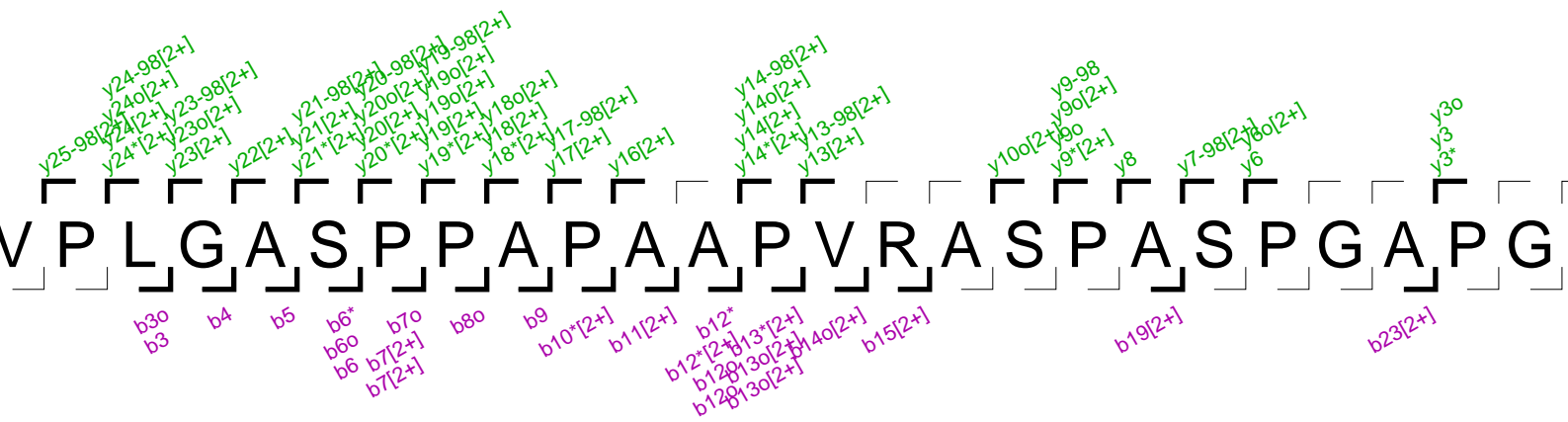
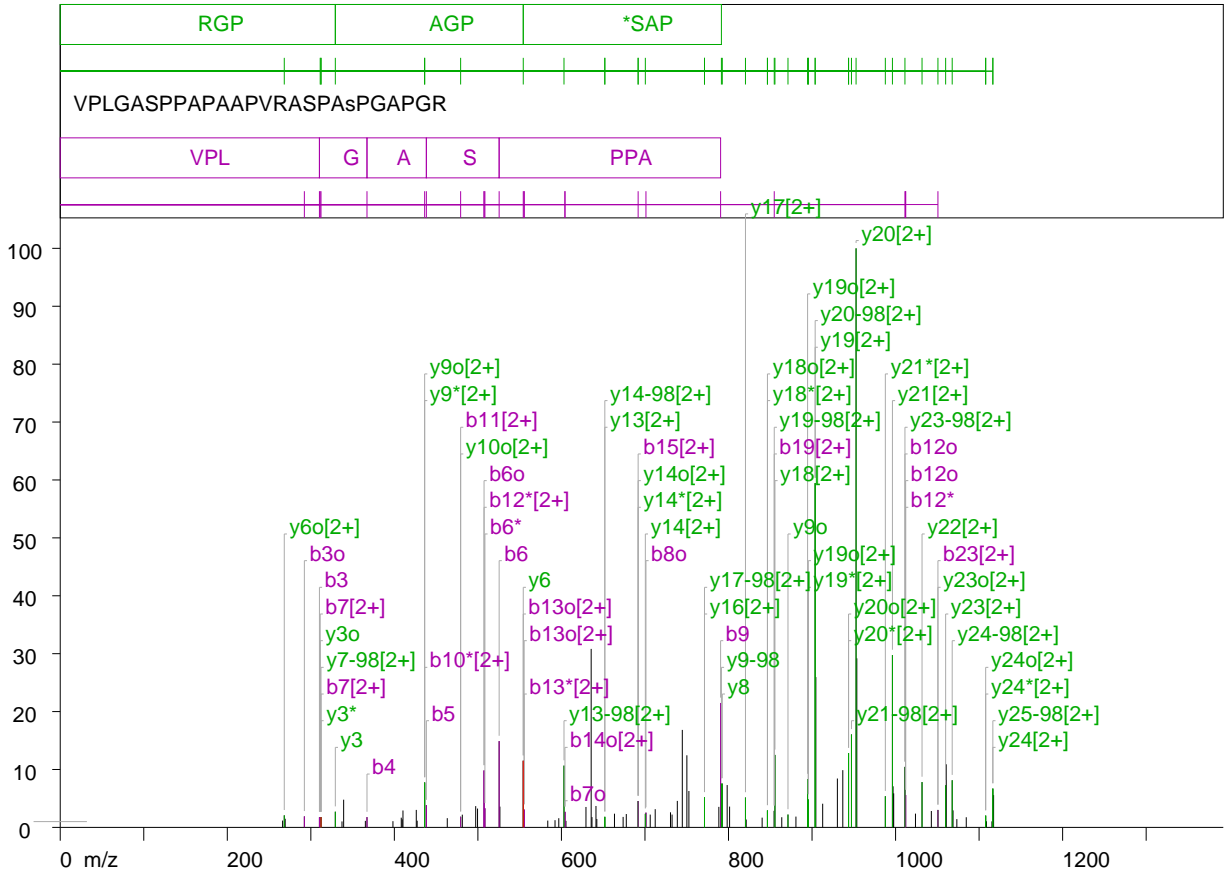
953.6113281	6837.4541015625	29.19	
987.7427979	1261.1635742188	5.38	y21*[2+] (0.25) : z21[2+] (0.25)
996.2458496	6968.00390625	29.75	y21[2+] (0.24)
997.0057373	1662.099609375	7.09	
997.7365723	1376.5955810547	5.87	
1011.223389	2446.6474609375	10.44	y23-98[2+] (0.18) : b12o (-0.33)
1012.06189	1309.1455078125	5.59	b12o (0.49) : b12* (-0.48)
1023.832764	557.1596679688	2.37	c22[2+] (0.30)
1031.693726	1832.7524414063	7.82	y22[2+] (0.17)
1042.819336	662.5329589844	2.82	
1050.728516	705.7763671875	3.01	b23[2+] (0.19) : y23o[2+] (-0.29)
1059.937866	1701.7784423828	7.26	y23[2+] (-0.08)
1060.697021	2552.3364257813	10.89	
1067.805054	1907.2658691406	8.14	y24-98[2+] (0.22)
1068.778198	688.7384643555	2.94	
1073.359131	334.7396850586	1.42	
1084.633911	410.6767883301	1.75	a24[2+] (-0.43)
1107.873291	476.8552856445	2.03	y24o[2+] (0.31) : c24[2+] (0.29) : y24*[2+] (-0.18) : z24[2+] (-0.18)
1108.80896	248.2423095703	1.06	b13o (0.19)
1115.33667	244.4446716309	1.04	
1116.449951	1569.3270263672	6.70	y25-98[2+] (0.34) : y24[2+] (-0.11)
1117.349976	1305.6892089844	5.57	



S32

# ProPhosSI MS/MS report

Mass: 810.091370 Charge: 3+



## Cav3.2 Rat

(23) 13 VPLGASPPAPAAPVRASPA<sub>s</sub>PGAPGR 38 2427.242 Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
20	(32)	Phospho (ST)	y3=> y9-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	11 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y3 to y9-98 support unique phosphorylation at position 20  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b3 to b6.
Five of six sequential ions present	1/1	Five of Six ions found between b2 and b7 Five of Six ions found between b3 and b8 Five of Six ions found between b4 and b9 Five of Six ions found between y19 and y24 Five of Six ions found between y20 and y25
Proline directed fragmentation pattern	9/11	FAIL: y25-98< y24-98 No proline ions at b2  NOTE: S-P is a low abundance fragmentation. PASS: y20-98> y19-98 with ratio 20.8  PASS: b7< b6 with ratio 8.35  NOTE: P-P is a low abundance fragmentation. PASS: y19-98> y18-98  PASS: b8< b7  PASS: y17-98> y16-98  PASS: b10< b9  FAIL: y14-98< y13-98 No proline ions at b13  NOTE: S-P is a low abundance fragmentation. PASS: y9-98> y8-98  No proline ions at b18  NOTE: S-P is a low abundance fragmentation. PASS: y6> y5  No proline ions at b21-98  PASS: y3> y2  No proline ions at b24-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 952.7352295: intensity: 23419.04296875) assigned 1 times ion 2 (mass: 903.7352295: intensity: 13923.27734375) assigned 2 times ion 3 (mass: 635.6049805: intensity: 7219.5546875) assigned 0 times ion 4 (mass: 996.2458496: intensity: 6968.00390625) assigned 1 times ion 5 (mass: 953.6113281: intensity: 6837.4541015625) assigned 0 times ion 6 (mass: 904.5695801: intensity: 6080.0546875) assigned 1 times ion 7 (mass: 790.5495605: intensity: 5031.9091796875) assigned 1 times ion 8 (mass: 744.7149658: intensity: 3943.1440429688) assigned 1 times ion 9 (mass: 947.190918: intensity: 3759.1779785156) assigned 1 times ion 10 (mass: 525.4376831: intensity: 3489.5012207031) assigned 1 times

## Ion Table

59 ions assigned of 90 ions above threshold (65%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
V	1	100.076	83.049	-	82.065
P	2	197.129	180.102	-	179.118
L	3	310.213 310.2914734 (1)	293.186	-	292.202 *292.2433167 (1)
G	4	367.234 367.213501 (1)	350.208	-	349.223
A	5	438.271 438.291687 (3)	421.245	-	420.261
S	6	525.303 525.4376831 (14)	508.277 508.3764648 (3)	-	507.293 *507.3612061 (9)
P	7	622.356 *311.2166138 [2+] (1) *312.1858521 [2+] (1)	605.329	-	604.345 *604.213623 (2)
P	8	719.409	702.382	-	701.398 701.1758423 (2)
A	9	790.446 790.5495605 (21)	773.419	-	772.435
P	10	887.499	870.472 *436.2650757 [2+] (7)	-	869.488
A	11	958.536 *479.335968 [2+] (1)	941.509	-	940.525
A	12	1029.573	1012.546 *1012.06189 (5) *507.3612061 [2+] (9)	-	1011.562 *1011.223389 (10) *1012.06189 (5)
P	13	1126.626	1109.599 *555.3710938 [2+] (3)	-	1108.615 *555.3710938 [2+] (3) *554.3131104 [2+] (11)
V	14	1225.694	1208.668	-	1207.684 *604.213623 [2+] (2)
R	15	1381.795 *691.8182373 [2+] (4)	1364.769	-	1363.785
A	16	1452.832	1435.806	-	1434.822
S	17	1539.864	1522.838	-	1521.854
P	18	1636.917	1619.891	-	1618.907
A	19	1707.954 *854.755249 [2+] (2)	1690.928	-	1689.944
s	20	1874.953	1857.926	1776.967	1856.942
P	21	1972.005	1954.979	1874.019	1953.995
G	22	2029.027	2012.000	1931.041	2011.016
A	23	2100.064 *1050.728516 [2+] (3)	2083.037	2002.078	2082.053
P	24	2197.117	2180.090	2099.131	2179.106
G	25	2254.138	2237.112	2156.152	2236.128
R	26	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
V	26	-	-	-	-
P	25	2329.181	2312.155	2231.196 *1116.449951 [2+] (6)	2311.171
L	24	2232.129 *1116.449951 [2+] (6)	2215.102 *1107.873291 [2+] (2)	2134.143 1067.805054 [2+] (8)	2214.118 *1107.873291 [2+] (2)

G	23	2119.045 1059.937866 [2+] (7)	2102.018	2021.059 *1011.223389 [2+] (10)	2101.034 *1050.728516 [2+] (3)
A	22	2062.023 1031.693726 [2+] (7)	2044.997	1964.037	2044.013
S	21	1990.986 996.2458496 [2+] (29)	1973.959 *987.7427979 [2+] (5)	1893.000 947.190918 [2+] (16)	1972.975
P	20	1903.954 952.7352295 [2+] (100)	1886.927 *943.7270508 [2+] (12)	1805.968 *903.7352295 [2+] (59)	1885.943 *943.7270508 [2+] (12)
P	19	1806.901 *903.7352295 [2+] (59)	1789.875 *895.5144043 [2+] (4)	1708.915 *854.755249 [2+] (2)	1788.891 894.6916504 [2+] (8) *895.5144043 [2+] (4)
A	18	1709.848 855.5913086 [2+] (12)	1692.822 *846.6206055 [2+] (2)	1611.863	1691.838 *846.6206055 [2+] (2)
P	17	1638.811 *820.3164063 [2+] (5)	1621.785	1540.825 *771.2575684 [2+] (5)	1620.801
A	16	1541.759 *771.2575684 [2+] (5)	1524.732	1443.773	1523.748
A	15	1470.721	1453.695	1372.736	1452.711
P	14	1399.684 *700.4591064 [2+] (2)	1382.658 *691.8182373 [2+] (4)	1301.698 *651.9412231 [2+] (1)	1381.674 *691.8182373 [2+] (4)
V	13	1302.632 *651.9412231 [2+] (1)	1285.605	1204.646 603.0700073 [2+] (10)	1284.621
R	12	1203.563	1186.537	1105.577	1185.553
A	11	1047.462	1030.435	949.476	1029.451
S	10	976.425	959.398	878.439	958.414 *479.335968 [2+] (1)
P	9	889.393	872.366 *436.2650757 [2+] (7)	791.407 791.5098877 (7)	871.382 871.2175293 (2) *436.2650757 [2+] (7)
A	8	792.340 792.5715332 (7)	775.314	694.354	774.329
s	7	721.303	704.276	623.317 *312.1858521 [2+] (1)	703.292
P	6	554.305 *554.3131104 (11)	537.278	-	536.294 268.203949 [2+] (2)
G	5	457.252	440.225	-	439.241
A	4	400.230	383.204	-	382.220
P	3	329.193 329.3317566 (2)	312.167 *312.1858521 (1)	-	311.183 *311.2166138 (1)
G	2	232.140	215.114	-	214.130
R	1	175.119	158.092	-	157.108

## Ion distribution

Threshold	Ion count	Matches	% matched
0	132	76	57
0.5	124	70	56
1	105	64	60
2	74	49	66
3	55	37	67
4	42	32	76
5	37	28	75
10	17	14	82

Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
266.2089844	276.302947998	1.17	
268.203949	487.2700805664	2.08	y6o[2+] (-0.44)
269.2924805	349.4795227051	1.49	y6*[2+] (0.14) : z6[2+] (0.14)
292.2433167	444.5546875	1.89	x6[2+] (0.58) : b3o (0.04)
310.2914734	410.3699951172	1.75	b3 (0.07)
311.2166138	417.7741699219	1.78	y3o (0.03) : b7[2+] (-0.46)
312.1858521	415.9727783203	1.77	b7[2+] (0.50) : y7-98[2+] (0.02) : y3* (0.01) : z3 (0.01)
329.3317566	634.3988647461	2.70	y3 (0.13)
337.3043823	241.9138031006	1.03	a8o[2+] (0.09) : a8*[2+] (-0.39)
339.3014832	1120.9458007813	4.78	a4 (0.06)
365.2946777	263.8448486328	1.12	
367.213501	416.04296875	1.77	b4 (-0.02)
398.2878418	251.7483520508	1.07	
408.2564087	393.1322631836	1.67	
409.3639832	324.955078125	1.38	
410.3105164	683.9563598633	2.92	a5 (0.03) : x8[2+] (-0.36)
426.24823	707.6258544922	3.02	
427.2878418	271.129699707	1.15	
436.2650757	1816.3032226563	7.75	b10*[2+] (0.52) : y9o[2+] (0.06) : z9[2+] (-0.42) : y9*[2+] (-0.42)
438.291687	897.6844482422	3.83	b5 (0.02)
463.3316345	372.9010009766	1.59	
479.335968	429.1842651367	1.83	a6o (0.03) : y10o[2+] (-0.37) : b11[2+] (-0.43)
481.3509827	514.9075317383	2.19	
497.3687744	860.6733398438	3.67	a6 (0.05)
499.5850525	761.9863891602	3.25	
507.3612061	2301.4807128906	9.82	b12*[2+] (0.58) : b6o (0.06)
508.3764648	772.1566162109	3.29	b6* (0.09)
525.4376831	3489.5012207031	14.90	b6 (0.13)
526.3417358	840.4647827148	3.58	
554.3131104	2697.4147949219	11.51	y6 (0.00) : b13o[2+] (-0.49)
555.3710938	718.3114013672	3.06	b13o[2+] (0.55) : b13*[2+] (0.06)
583.6594238	275.5367126465	1.17	
592.3424072	291.6222229004	1.24	
596.8339844	371.4857788086	1.58	
603.0700073	2498.6655273438	10.66	y13-98[2+] (0.24)
604.213623	628.5274047852	2.68	b7o (-0.13) : b14o[2+] (-0.13)
605.4224243	264.7172241211	1.13	b14*[2+] (0.58) : b7* (0.09)
629.3730469	826.6108398438	3.52	
635.6049805	7219.5546875	30.82	
636.5630493	416.5586853027	1.77	
641.3455811	866.1926879883	3.69	

642.3646851	340.0477600098,	1.45	y13o[2+] (-0.44)
651.9412231	427.5472412109,	1.82	y14-98[2+] (0.58) : y13[2+] (0.12)
663.4974365	554.2814331055,	2.36	
673.8565674	424.4962158203,	1.81	a8o (0.45) : a8* (-0.53)
677.6367188	540.478515625,	2.30	a15[2+] (0.23)
691.8182373	1066.9110107422,	4.55	y14o[2+] (0.47) : b15[2+] (0.41) : a8 (0.40) : y14*[2+] (-0.01) : z14[2+] (-0.01)
700.4591064	549.6945800781,	2.34	c15[2+] (0.54) : y14[2+] (0.11)
701.1758423	597.416015625,	2.55	b8o (-0.22)
706.2801514	518.1684570313,	2.21	
712.2622681	736.9644165039,	3.14	
730.5428467	610.1337890625,	2.60	
732.4550781	518.559387207,	2.21	
738.7167969	1071.2553710938,	4.57	
744.7149658	3943.1440429688,	16.83	a9o (0.27)
750.1541748	2916.2158203125,	12.45	x15[2+] (0.29)
752.5794678	1471.5670166016,	6.28	
771.2575684	1213.443359375,	5.18	y17-98[2+] (0.34) : y16[2+] (-0.12)
788.4609375	830.3670654297,	3.54	
790.5495605	5031.9091796875,	21.48	b9 (0.10)
791.5098877	1767.1743164063,	7.54	y9-98 (0.10)
792.5715332	1773.0881347656,	7.57	y8 (0.23)
798.4227295	1713.2215576172,	7.31	
801.3063965	841.5447998047,	3.59	
820.3164063	1207.5725097656,	5.15	y17[2+] (0.40) : x8 (-0.01)
821.2232666	318.2019042969,	1.35	
840.2712402	394.5956420898,	1.68	a19[2+] (-0.21)
846.6206055	684.8620605469,	2.92	y18o[2+] (0.19) : y18*[2+] (-0.29) : z18[2+] (-0.29)
854.755249	668.2221679688,	2.85	b19[2+] (0.27) : y19-98[2+] (-0.20)
855.5913086	2931.4663085938,	12.51	y18[2+] (0.16)
863.7662354	411.4609069824,	1.75	
871.2175293	519.3505859375,	2.21	y9o (-0.16)
880.7216797	436.9247436523,	1.86	
894.6916504	1951.9211425781,	8.33	y19o[2+] (-0.25)
895.5144043	1126.9504394531,	4.81	y19o[2+] (0.56) : y19*[2+] (0.07) : z19[2+] (0.07)
903.7352295	13923.27734375,	59.45	y20-98[2+] (0.24) : y19[2+] (-0.21)
904.5695801	6080.0546875,	25.96	c10 (0.04)
912.7540283	957.983215332,	4.09	a11o (0.22)
930.3392334	1977.0543212891,	8.44	a11 (-0.20)
936.8227539	2315.1467285156,	9.88	
943.7270508	3006.5444335938,	12.83	y20o[2+] (0.25) : y20*[2+] (-0.24) : z20[2+] (-0.24)
947.190918	3759.1779785156,	16.05	y21-98[2+] (0.18)
952.7352295	23419.04296875,	100	y20[2+] (0.25)

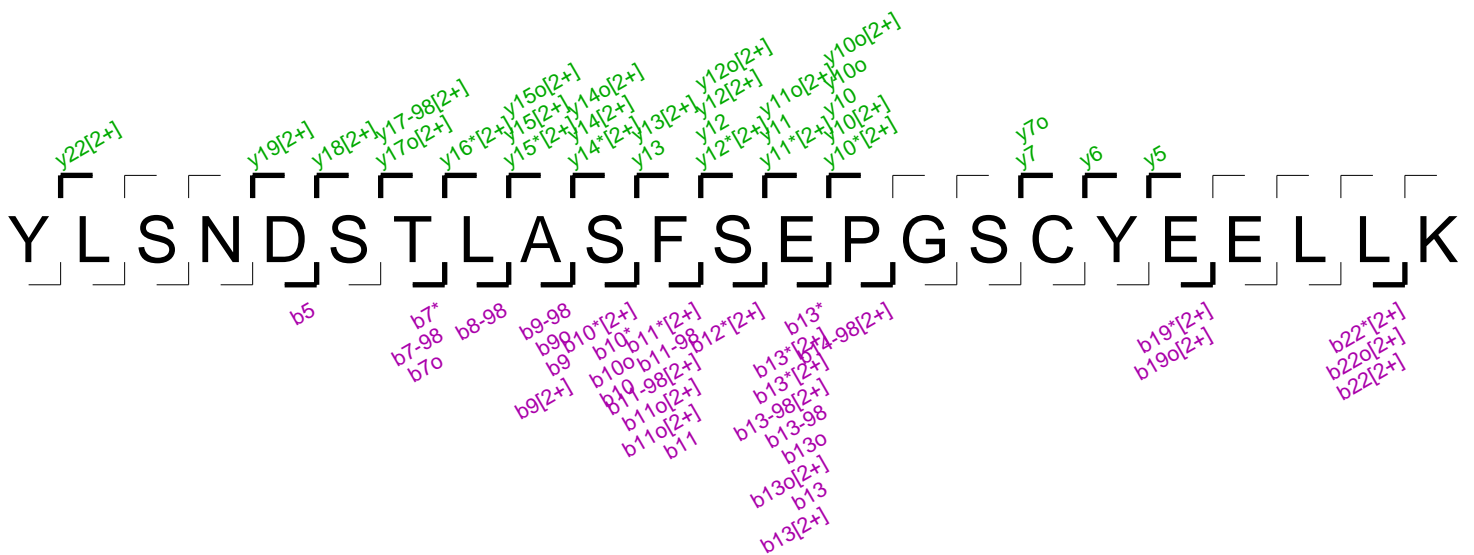
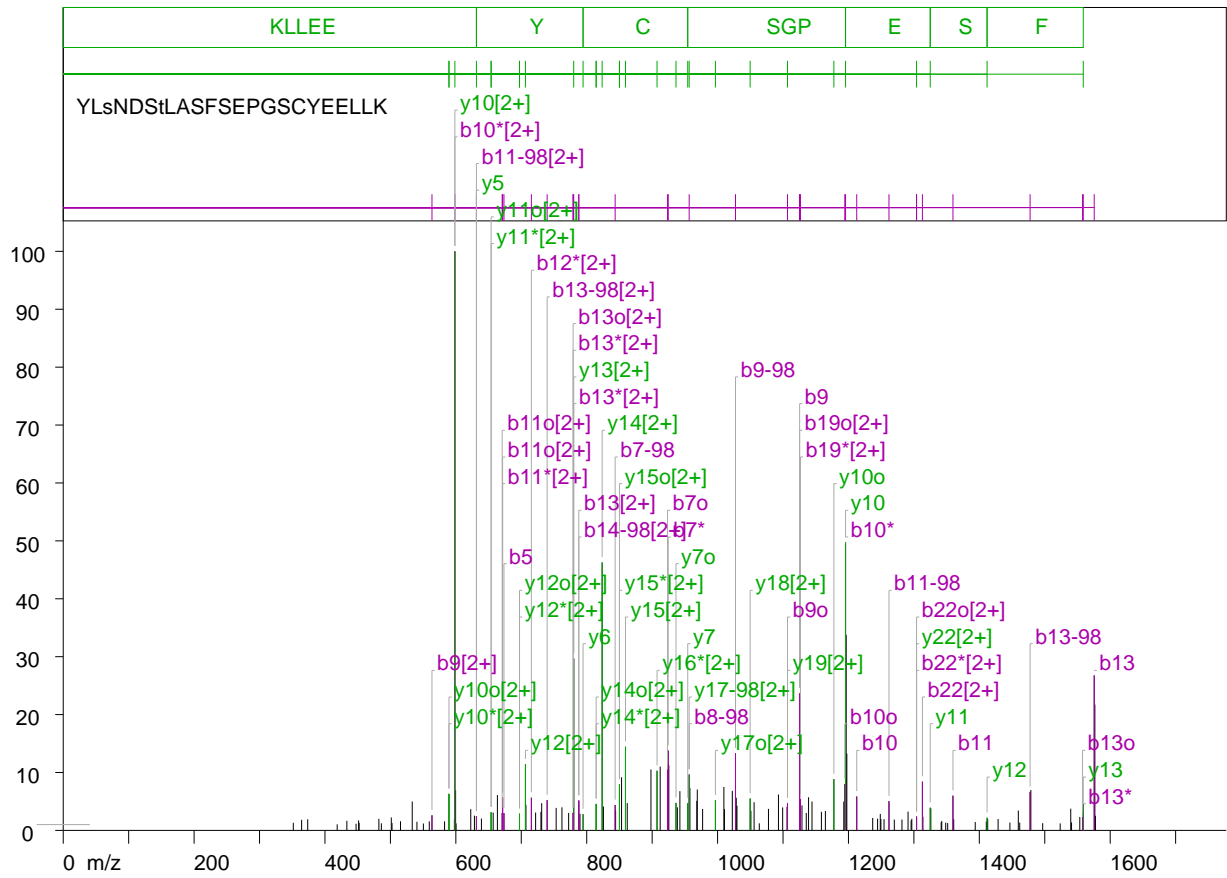
953.6113281	6837.4541015625,	29.19	
987.7427979	1261.1635742188,	5.38	y21*[2+] (0.25) : z21[2+] (0.25)
996.2458496	6968.00390625,	29.75	y21[2+] (0.24)
997.0057373	1662.099609375,	7.09	
997.7365723	1376.5955810547,	5.87	
1011.223389	2446.6474609375,	10.44	y23-98[2+] (0.18) : b12o (-0.33)
1012.06189	1309.1455078125,	5.59	b12o (0.49) : b12* (-0.48)
1023.832764	557.1596679688,	2.37	c22[2+] (0.30)
1031.693726	1832.7524414063,	7.82	y22[2+] (0.17)
1042.819336	662.5329589844,	2.82	
1050.728516	705.7763671875,	3.01	b23[2+] (0.19) : y23o[2+] (-0.29)
1059.937866	1701.7784423828,	7.26	y23[2+] (-0.08)
1060.697021	2552.3364257813,	10.89	
1067.805054	1907.2658691406,	8.14	y24-98[2+] (0.22)
1068.778198	688.7384643555,	2.94	
1073.359131	334.7396850586,	1.42	
1084.633911	410.6767883301,	1.75	a24[2+] (-0.43)
1107.873291	476.8552856445,	2.03	y24o[2+] (0.31) : c24[2+] (0.29) : y24*[2+] (-0.18) : z24[2+] (-0.18)
1108.80896	248.2423095703,	1.06	b13o (0.19)
1115.33667	244.4446716309,	1.04	
1116.449951	1569.3270263672,	6.70	y25-98[2+] (0.34) : y24[2+] (-0.11)
1117.349976	1305.6892089844,	5.57	



S442 and  
S445/T446  
(diP)

# ProPhosSI MS/MS report

Mass: 924.050659179688 Charge: 3+



## Cav3.2 Rat

(23) 440 YLsNDSiLASFSEPGSCYEELLK 462 2769.117 (0.0114) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(442)	Phospho (ST)	y15[2+]=>y18[2+]
6 or 7	(445 or 446)	Phospho (ST)	b7-98, b8-98, b9-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 2 phosphate ions were not found
Three -98 Ions present	0/1	1 des-phospho fragment ions were found.
Unique -98 transitions present	1/2	transition y15[2+] to y18[2+] suggests one phosphorylation at position 6 or 7; the ions b7-98, b8-98, b9-98 suggest 2 phosphorylations at position 3, 6 and/or 7.
Four Sequential b or y ions	1/1	Sequence of four y ions found from y10 to y13.
Five of six sequential ions present	1/1	Five of Six ions found between y9 and y14 Five of Six ions found between y10 and y15 Five of Six ions found between y11 and y16 Five of Six ions found between y12 and y17
Proline directed fragmentation pattern	1/1	PASS: y10> y9  No proline ions at b14-196 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 598.5263062: intensity: 3755.2878417969) assigned 2 times ion 2 (mass: 1195.557861: intensity: 1867.1243896484) assigned 2 times ion 3 (mass: 823.5628052: intensity: 1737.8587646484) assigned 1 times ion 4 (mass: 1196.558594: intensity: 1268.205078125) assigned 0 times ion 5 (mass: 780.1264038: intensity: 1114.9024658203) assigned 2 times ion 6 (mass: 1575.590088: intensity: 1005.0581665039) assigned 1 times ion 7 (mass: 1125.391479: intensity: 888.6829223633) assigned 2 times ion 8 (mass: 1576.577026: intensity: 816.4624633789) assigned 0 times ion 9 (mass: 859.2328491: intensity: 542.826171875) assigned 1 times ion 10 (mass: 924.5922241: intensity: 517.65625) assigned 1 times

### Ion Table

53 ions assigned of 109 ions above threshold (48%).

#### N-terminal ions

AA	N-ion	b	b*	b-196	b-98	bo
Y	1	164.071	147.044	-	-	146.060
L	2	277.155	260.128	-	-	259.144
s	3	444.153	427.127	-	346.167	426.142

N	4	558.196	541.169	-	460.210	540.185
D	5	673.223 673.5197144 (2)	656.196	-	575.237	655.212
S	6	760.255	743.228	-	662.269	742.244
t	7	941.269	924.242 924.5922241 (13)	745.297	843.283 843.4760132 (4)	923.258 923.5216064 (10)
L	8	1054.353	1037.326	858.381	956.367 *956.5828247 (9)	1036.342
A	9	1125.390 *1125.391479 (23) *563.5286865 [2+] (2)	1108.364	929.418	1027.404 1027.371216 (13)	1107.380 *1106.87793 (4)
S	10	1212.422 1212.658569 (5)	1195.396 *598.5263062 [2+] (100) *1195.557861 (49)	1016.450	1114.436	1194.412 1194.432251 (7)
F	11	1359.491 1359.707764 (5)	1342.464 *671.4653931 [2+] (5)	1163.519	1261.505 *1261.935547 (5) *631.4736938 [2+] (2)	1341.480 670.7871094 [2+] (3) *671.4653931 [2+] (5)
S	12	1446.523	1429.496 *715.4228516 [2+] (5)	1250.551	1348.537	1428.512
E	13	1575.565 1575.590088 (26) *787.9171753 [2+] (5)	1558.539 *1558.836304 (4) *779.2491455 [2+] (3) *780.1264038 [2+] (29)	1379.593	1477.579 739.5264282 [2+] (5) 1477.5802 (6)	1557.555 1557.725952 (2) *779.2491455 [2+] (3)
P	14	1672.618	1655.591	1476.646	1574.632 *787.9171753 [2+] (5)	1654.607
G	15	1729.639	1712.613	1533.668	1631.654	1711.629
S	16	1816.671	1799.645	1620.700	1718.686	1798.661
C	17	1976.702	1959.676	1780.730	1878.716	1958.692
Y	18	2139.765	2122.739	1943.794	2041.780	2121.755
E	19	2268.808	2251.782 *1126.615967 [2+] (5)	2072.836	2170.822	2250.798 *1125.391479 [2+] (23)
E	20	2397.851	2380.824	2201.879	2299.865	2379.840
L	21	2510.935	2493.908	2314.963	2412.949	2492.924
L	22	2624.019 *1313.018555 [2+] (8)	2606.992 *1304.065552 [2+] (2)	2428.047	2526.033	2606.008 *1304.065552 [2+] (2)
K	23	-	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-196	y-98	yo
Y	23	-	-	-	-	-
L	22	2607.061 *1304.065552 [2+] (2)	2590.034	2411.089	2509.075	2589.050
s	21	2493.977	2476.950	2298.005	2395.991	2475.966
N	20	2326.979	2309.952	-	2228.993	2308.968
D	19	2212.936 *1106.87793 [2+] (4)	2195.909	-	2114.950	2194.925
S	18	2097.909 1049.748901 [2+] (5)	2080.882	-	1999.923	2079.898
t	17	2010.877	1993.850	-	1912.891 *956.5828247 [2+] (9)	1992.866 996.7018433 [2+] (5)
L	16	1829.863	1812.836 *907.4781494 [2+] (10)	-	-	1811.852
A	15	1716.779 859.2328491 [2+] (14)	1699.752 *850.0323486 [2+] (7)	-	-	1698.768 *850.0323486 [2+] (7)

S	14	1645.742 823.5628052 [2+] (46)	1628.715 *814.4630737 [2+] (4)	-	-	1627.731 *814.4630737 [2+] (4)
F	13	1558.709 *1558.836304 (4) *780.1264038 [2+] (29)	1541.683	-	-	1540.699
S	12	1411.641 1411.824463 (2) 706.3464355 [2+] (11)	1394.615 *697.2852173 [2+] (2)	-	-	1393.631 *697.2852173 [2+] (2)
E	11	1324.609 1324.991333 (3)	1307.582 *653.9119263 [2+] (3)	-	-	1306.598 *653.9119263 [2+] (3)
P	10	1195.566 *598.5263062 [2+] (100) *1195.557861 (49)	1178.540 *589.4939575 [2+] (6)	-	-	1177.556 *1177.698608 (8) *589.4939575 [2+] (6)
G	9	1098.514	1081.487	-	-	1080.503
S	8	1041.492	1024.466	-	-	1023.482
C	7	954.460 954.394165 (4)	937.434	-	-	936.450 936.4575806 (4)
Y	6	794.430 *794.4381714 (2)	777.403	-	-	776.419
E	5	631.366 *631.4736938 (2)	614.340	-	-	613.356
E	4	502.324	485.297	-	-	484.313
L	3	373.281	356.254	-	-	355.270
L	2	260.197	243.170	-	-	242.186
K	1	147.113	130.086	-	-	129.102

## Ion distribution

Threshold	Ion count	Matches	% matched
0	183	77	42
0.5	174	74	42
1	147	67	45
2	108	53	49
3	90	43	47
4	65	38	58
5	48	31	64
10	18	12	66

## Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
351.6018066	49.2358016968,	1.31	
364.3315735	68.8338623047,	1.83	
373.599762	71.9727554321,	1.91	b7-196[2+] (0.44) : y3 (0.31)
418.6609802	39.3440246582,	1.04	
433.47052	62.0638809204,	1.65	
447.5223694	42.9983825684,	1.14	
451.3696594	64.55884552,	1.71	
452.1956787	48.9850692749,	1.30	
482.3526001	75.3079910278,	2.00	

486.140564	46.1388092041	1.22	
501.3679199	83.8587799072	2.23	
502.4713135	47.4131088257	1.26	y4 (0.14)
515.4168091	59.3086700439	1.57	
533.376709	187.578414917	4.99	
540.5346069	55.8994789124	1.48	b4o (0.34) : a9o[2+] (0.33) : a9*[2+] (-0.15) : y9o[2+] (-0.22)
550.4015503	44.5072021484	1.18	
559.4163818	58.8001708984	1.56	
563.5286865	97.9052276611	2.60	b9[2+] (0.32) : x9[2+] (-0.22)
582.7800903	58.5253982544	1.55	b11-196[2+] (0.51)
589.4939575	237.1043548584	6.31	y10o[2+] (0.21) : y10*[2+] (-0.28) : z10[2+] (-0.28)
597.7462158	71.3273620605	1.89	b10o[2+] (0.03) : b10*[2+] (-0.45) : y10[2+] (-0.54)
598.5263062	3755.2878417969	100	b10*[2+] (0.32) : y10[2+] (0.23)
599.6279907	260.1499023438	6.92	
600.317627	45.4025688171	1.20	
622.777832	137.7054595947	3.66	
628.4204102	95.4187088013	2.54	a5* (0.21)
631.4736938	91.8992767334	2.44	b11-98[2+] (0.21) : y5 (0.10)
639.1132202	77.2213973999	2.05	
653.9119263	117.5107421875	3.12	y11o[2+] (0.10) : y11*[2+] (-0.38) : z11[2+] (-0.38)
657.0546265	115.3550643921	3.07	a11o[2+] (-0.19)
663.503418	229.1204223633	6.10	
670.7871094	113.415435791	3.02	b11o[2+] (-0.45)
671.4653931	212.1249694824	5.64	b11o[2+] (0.22) : b11*[2+] (-0.27)
673.5197144	111.9337158203	2.98	b5 (0.29)
697.2852173	108.2911605835	2.88	y12o[2+] (-0.03) : y12*[2+] (-0.52) : z12[2+] (-0.52)
706.3464355	428.8691711426	11.42	y12[2+] (0.02)
707.1088867	166.4955596924	4.43	
715.4228516	212.389465332	5.65	a6* (0.18) : b12*[2+] (0.17)
721.9362793	115.8266601563	3.08	
730.0787354	120.1991348267	3.20	
731.1859741	176.6515045166	4.70	
739.5264282	196.2640380859	5.22	b13-98[2+] (0.23)
753.3244019	146.0010070801	3.88	
762.1696167	149.7145385742	3.98	
772.3921509	113.2326965332	3.01	
779.2491455	114.0820846558	3.03	b13o[2+] (-0.03) : b13*[2+] (-0.52)
780.1264038	1114.9024658203	29.68	b13*[2+] (0.35) : y13[2+] (0.26)
787.9171753	193.6899871826	5.15	b14-98[2+] (0.09) : b13[2+] (-0.36)
789.6920776	107.6623687744	2.86	
794.4381714	105.5156326294	2.80	x13[2+] (0.58) : y6 (0.00)
814.4630737	171.807723999	4.57	a14*[2+] (0.16) : y14o[2+] (0.09) : y14*[2+] (-0.39) : z14[2+] (-0.39)

823.5628052	1737.8587646484 <sub>3</sub>	46.27	y14[2+] (0.18)
825.5532837	155.0833740234 <sub>3</sub>	4.12	
843.4760132	164.7424316406 <sub>3</sub>	4.38	b7-98 (0.19)
844.1629028	128.6432495117 <sub>3</sub>	3.42	
850.0323486	298.0325927734 <sub>3</sub>	7.93	y15o[2+] (0.14) : y15*[2+] (-0.34) : z15[2+] (-0.34)
853.2647095	344.5879821777 <sub>3</sub>	9.17	
859.2328491	542.826171875 <sub>3</sub>	14.45	y15[2+] (0.33)
861.9293823	177.1485290527 <sub>3</sub>	4.71	
898.1708984	395.0063171387 <sub>3</sub>	10.51	
907.4781494	386.6175537109 <sub>3</sub>	10.29	y16*[2+] (0.55) : z16[2+] (0.55)
912.262207	413.7712097168 <sub>3</sub>	11.01	
923.5216064	393.0085754395 <sub>3</sub>	10.46	b7o (0.26)
924.5922241	517.65625 <sub>3</sub>	13.78	b7* (0.34)
925.4887085	422.8198852539 <sub>3</sub>	11.25	
936.4575806	178.2256469727 <sub>3</sub>	4.74	y7o (0.00)
938.5404663	149.677230835 <sub>3</sub>	3.98	
942.3861084	254.5924072266 <sub>3</sub>	6.77	
954.394165	176.7706451416 <sub>3</sub>	4.70	y7 (-0.06)
956.5828247	362.2992248535 <sub>3</sub>	9.64	b8-98 (0.21) : y17-98[2+] (-0.36)
957.706665	273.9228515625 <sub>3</sub>	7.29	c7 (-0.58)
968.2559204	191.8166351318 <sub>3</sub>	5.10	
968.9608154	264.8502807617 <sub>3</sub>	7.05	
977.121521	139.495880127 <sub>3</sub>	3.71	
996.7018433	195.0431976318 <sub>3</sub>	5.19	y17o[2+] (-0.23)
1009.610718	281.5429077148 <sub>3</sub>	7.49	a8* (0.27)
1010.482178	138.0122680664 <sub>3</sub>	3.67	
1022.477661	256.4462890625 <sub>3</sub>	6.82	
1027.371216	499.8677368164 <sub>3</sub>	13.31	b9-98 (-0.03)
1028.541016	211.6258239746 <sub>3</sub>	5.63	
1029.614136	159.7338562012 <sub>3</sub>	4.25	
1049.748901	206.9935302734 <sub>3</sub>	5.51	y18[2+] (0.29)
1050.914429	127.2528381348 <sub>3</sub>	3.38	
1055.796875	182.7055053711 <sub>3</sub>	4.86	a18[2+] (-0.59)
1063.732666	45.8966140747 <sub>3</sub>	1.22	x18[2+] (0.27)
1077.765259	139.6354827881 <sub>3</sub>	3.71	
1093.015747	232.6449432373 <sub>3</sub>	6.19	
1099.45459	149.1550140381 <sub>3</sub>	3.97	
1106.076904	153.1938781738 <sub>3</sub>	4.07	
1106.87793	177.8388366699 <sub>3</sub>	4.73	y19[2+] (-0.09) : b9o (-0.50)
1125.391479	888.6829223633 <sub>3</sub>	23.66	b9 (0.00) : b19o[2+] (-0.51)
1126.615967	203.8230743408 <sub>3</sub>	5.42	b19*[2+] (0.22) : x9 (0.10)
1128.943726	162.1570739746 <sub>3</sub>	4.31	
1135.515137	113.0890426636 <sub>3</sub>	3.01	

1139.023193	214.839553833,	5.72	
1144.293945	187.6215667725,	4.99	
1158.667603	120.7823257446,	3.21	
1164.76709	125.4929580688,	3.34	
1177.698608	332.8663330078,	8.86	y10o (0.14) : x20[2+] (-0.29)
1192.880371	187.0800018311,	4.98	
1194.432251	300.0869445801,	7.99	b10o (0.02)
1195.557861	1867.1243896484,	49.71	b10* (0.16) : y10 (-0.00)
1196.558594	1268.205078125,	33.77	
1197.53772	497.7731018066,	13.25	
1212.658569	220.2799682617,	5.86	b10 (0.23)
1237.041138	80.6132583618,	2.14	
1244.505127	76.4034881592,	2.03	
1248.617554	107.1978302002,	2.85	
1249.586914	73.1403121948,	1.94	
1254.374512	73.1107788086,	1.94	
1261.935547	189.6396484375,	5.04	x21[2+] (0.44) : b11-98 (0.43)
1270.070068	70.2635803223,	1.87	
1281.762939	70.4279937744,	1.87	
1291.06665	121.7464141846,	3.24	
1295.704346	64.6614608765,	1.72	y22*[2+] (0.18) : z22[2+] (0.18)
1296.812256	75.0693969727,	1.99	
1304.065552	88.9776000977,	2.36	b22o[2+] (0.55) : b22*[2+] (0.06) : y22[2+] (0.03)
1313.018555	316.4009399414,	8.42	b22[2+] (0.50) : a11o (-0.46)
1313.761841	89.4039001465,	2.38	a11o (0.27)
1324.991333	147.361541748,	3.92	y11 (0.38)
1325.879639	141.916229248,	3.77	
1341.702393	52.5965957642,	1.40	b11o (0.22)
1342.577148	61.2493095398,	1.63	b11* (0.11)
1348.611938	50.7913513184,	1.35	b12-98 (0.07)
1351.630005	47.7004241943,	1.27	
1359.707764	225.1877593994,	5.99	b11 (0.21)
1360.835083	71.8572540283,	1.91	
1393.72876	54.4371261597,	1.44	y12o (0.09)
1410.644043	56.7139434814,	1.51	
1411.824463	81.9980621338,	2.18	y12 (0.18)
1412.826538	72.1448287964,	1.92	
1428.664307	74.1617889404,	1.97	b12o (0.15)
1446.71936	50.8500862122,	1.35	b12 (0.19)
1459.581299	128.6705627441,	3.42	
1461.751221	50.6204528809,	1.34	
1477.5802	249.7721252441,	6.65	b13-98 (0.00)
1478.732422	261.9328308105,	6.97	

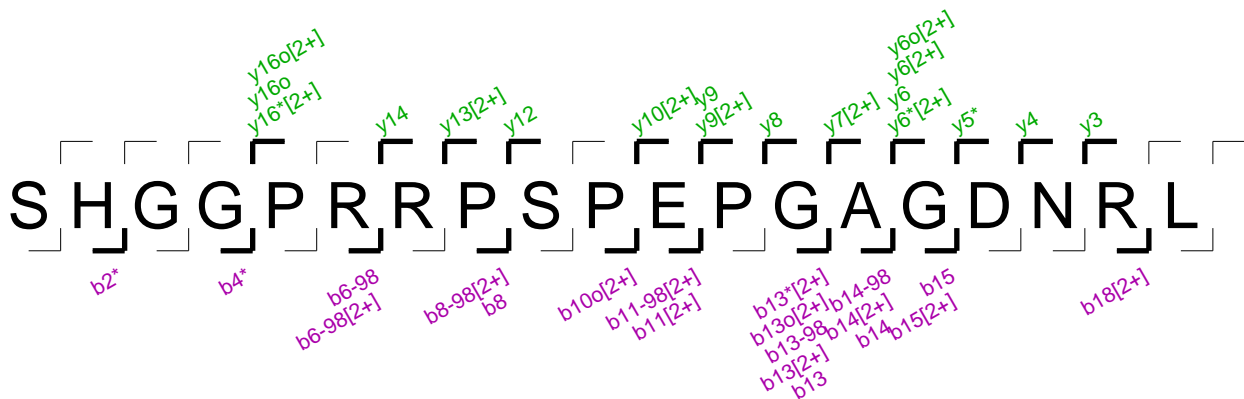
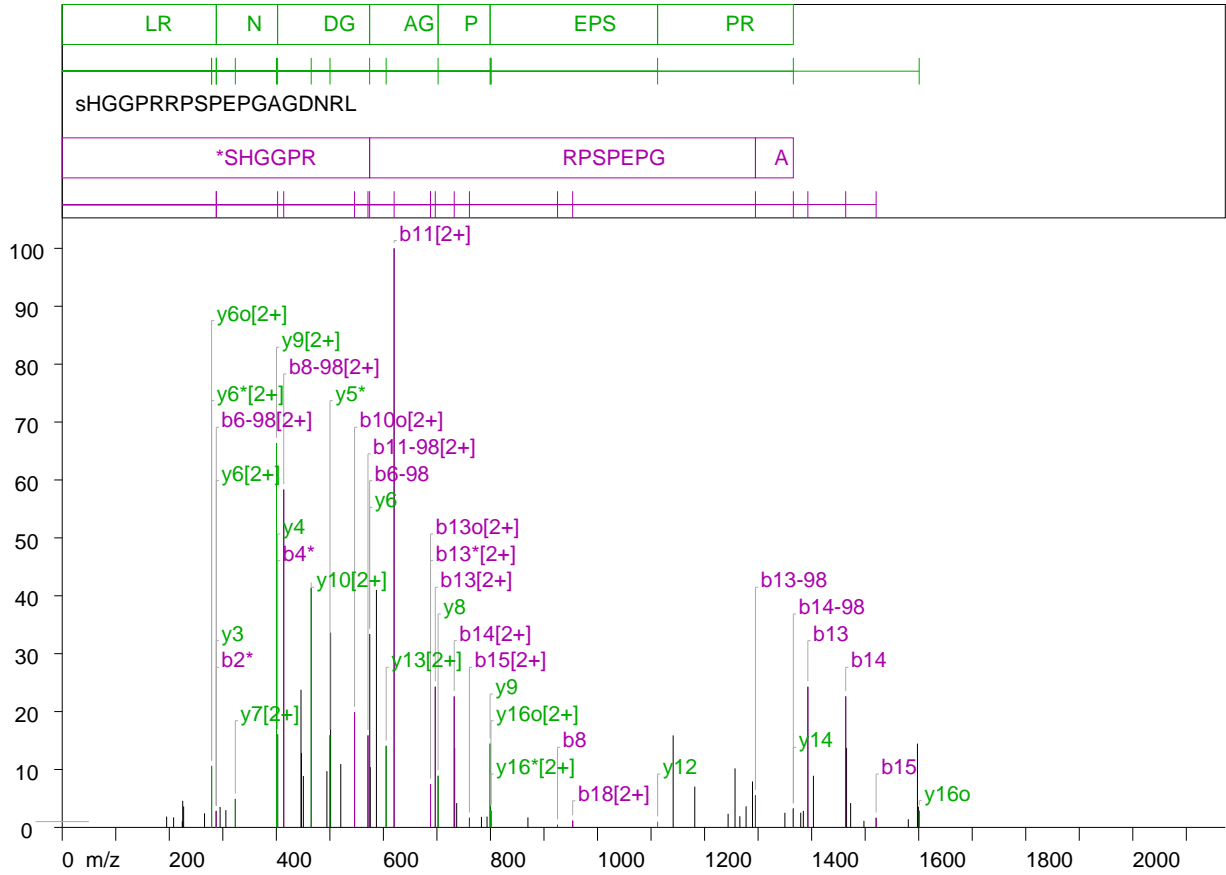


1496.821655	46.6989631653,	1.24	
1523.58667	45.590473175,	1.21	
1539.719482	140.9043884277,	3.75	
1540.941528	51.4207229614,	1.36	y13o (0.24)
1553.512085	86.9729003906,	2.31	
1557.725952	86.6851654053,	2.30	b13o (0.17)
1558.836304	169.0384063721,	4.50	b13* (0.29) : y13 (0.12)
1575.590088	1005.0581665039,	26.76	b13 (0.02)
1576.577026	816.4624633789,	21.74	
1577.439697	94.6348114014,	2.52	

**S533**

# ProPhosSI MS/MS report

Mass: 509.991061 Charge: 4+



## Cav3.2 Rat

(22) 533 sHGPRRPSPEPGAGDNRL 551 2035.933 (-0.0008) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
1	(533)	Phospho (ST)	b6-98[2+], b8-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	5 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	No transitions found to support unique phosphorylation at position 1  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y6 to y9.
Five of six sequential ions present	1/1	Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13 Five of Six ions found between y9 and y14
Proline directed fragmentation pattern	3/5	NOTE: G-P is a low abundance fragmentation. No proline ions at y16 No proline ions at b5-98  PASS: y13> y12 with ratio 14.2  FAIL: b8-98> b7-98 NOTE: S-P is a low abundance fragmentation. FAIL: y11< y10 No proline ions at b10-98  PASS: y9> y8 with ratio 7.44  PASS: b12-98< b11-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 620.036: intensity: 1089.37) assigned 1 times ion 2 (mass: 400.316: intensity: 722.85) assigned 2 times ion 3 (mass: 413.747: intensity: 635.55) assigned 2 times ion 4 (mass: 465.135: intensity: 450.84) assigned 1 times ion 5 (mass: 586.958: intensity: 446.59) assigned 0 times ion 6 (mass: 501.350: intensity: 366.38) assigned 0 times ion 7 (mass: 574.259: intensity: 363.87) assigned 2 times ion 8 (mass: 696.963: intensity: 264.64) assigned 2 times ion 9 (mass: 1392.919: intensity: 264.64) assigned 1 times ion 10 (mass: 446.064: intensity: 258.89) assigned 0 times

## Ion Table

35 ions assigned of 81 ions above threshold (43%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
s	1	168.006	150.979	70.020	149.995
H	2	305.065	288.038 *287.831 (2)	207.079	287.054
G	3	362.086	345.059	264.100	344.075
G	4	419.108	402.081 *402.340 (16)	321.122	401.097
P	5	516.160	499.134	418.174	498.150
R	6	672.261	655.235	574.275 *574.259 (33) *287.831 [2+] (2)	654.251
R	7	828.363	811.336	730.377	810.352
P	8	925.415 925.278 (0)	908.389	827.429 *413.747 [2+] (58)	907.405
S	9	1012.447	995.421	914.461	994.437
P	10	1109.500	1092.474	1011.514	1091.490 546.111 [2+] (19)
E	11	1238.543 620.036 [2+] (100)	1221.516	1140.557 *571.163 [2+] (15)	1220.532
P	12	1335.595	1318.569	1237.610	1317.585
G	13	1392.617 *696.963 [2+] (24) 1392.919 (24)	1375.590 *688.036 [2+] (7)	1294.631 1295.024 (5)	1374.606 *688.036 [2+] (7)
A	14	1463.654 732.324 [2+] (22) 1463.642 (22)	1446.628	1365.668 *1365.839 (3)	1445.643
G	15	1520.676 1520.483 (1) 760.745 [2+] (1)	1503.649	1422.690	1502.665
D	16	1635.702	1618.676	1537.717	1617.692
N	17	1749.745	1732.719	1651.759	1731.735
R	18	1905.847 953.606 [2+] (1)	1888.820	1807.861	1887.836
L	19	2018.931	2001.904	1920.945	2000.920
	20	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	yo
s	20	-	-	-
H	19	1869.943	1852.916	1851.932
G	18	1732.884	1715.857	1714.873
G	17	1675.862	1658.836	1657.852
P	16	1618.841	1601.814 *800.951 [2+] (2)	1600.830 1600.894 (2) *800.951 [2+] (2)
R	15	1521.788	1504.762	1503.778
R	14	1365.687 *1365.839 (3)	1348.661	1347.677
P	13	1209.586 605.164 [2+] (14)	1192.559	1191.575
S	12	1112.533 1112.254 (0)	1095.507	1094.523

P	11	1025.501	1008.475	1007.491
E	10	928.448 465.135 [2+] (41)	911.422	910.438
P	9	799.406 *400.316 [2+] (66) 799.349 (14)	782.379	781.395
G	8	702.353 702.167 (8)	685.326	684.342
A	7	645.332 323.366 [2+] (4)	628.305	627.321
G	6	574.294 *574.259 (33) *287.831 [2+] (2)	557.268 *279.039 [2+] (10)	556.284 *279.039 [2+] (10)
D	5	517.273	500.246 *500.277 (15)	499.262
N	4	402.246 *402.340 (16)	385.219	384.235
R	3	288.203 *287.831 (2)	271.177	270.193
L	2	132.102	115.075	114.091
	1	19.018	1.991	1.007

### Ion distribution

Threshold	Ion count	Matches	% matched
0	81	35	43
0.5	76	33	43
1	66	30	45
2	54	26	48
3	45	23	51
4	39	21	53
5	35	20	57
10	27	16	59

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
195.044	20.32 <sub>s</sub>	1.86	
208.080	18.91 <sub>s</sub>	1.73	
224.218	11.50 <sub>s</sub>	1.05	
225.093	49.95 <sub>s</sub>	4.58	
226.813	39.43 <sub>s</sub>	3.61	
265.868	26.49 <sub>s</sub>	2.43	
279.039	115.65 <sub>s</sub>	10.61	y6o[2+] (0.39) : y6*[2+] (-0.09) : z6[2+] (-0.09)
287.831	30.96 <sub>s</sub>	2.84	b6-98[2+] (0.18) : y6[2+] (0.17) : b2* (-0.20) : y3 (-0.37)
294.949	38.43 <sub>s</sub>	3.52	
305.701	32.50 <sub>s</sub>	2.98	
323.366	53.58 <sub>s</sub>	4.91	y7[2+] (0.19)
400.316	722.85 <sub>s</sub>	66.35	y9[2+] (0.10) : a7[2+] (-0.37)
402.340	174.73 <sub>s</sub>	16.03	b4* (0.25) : y4 (0.09)

413.747	635.55 <sub>3</sub>	58.34	x9[2+] (-0.45) : b8-98[2+] (-0.47)
446.064	258.89 <sub>3</sub>	23.76	
446.858	140.01 <sub>3</sub>	12.85	
450.515	96.78 <sub>3</sub>	8.88	
465.135	450.84 <sub>3</sub>	41.38	y10[2+] (0.40)
494.443	105.80 <sub>3</sub>	9.71	
500.277	173.52 <sub>3</sub>	15.92	y5* (0.03) : z5 (0.03)
501.350	366.38 <sub>3</sub>	33.63	
520.375	119.09 <sub>3</sub>	10.93	
546.111	216.76 <sub>3</sub>	19.89	b10o[2+] (-0.13)
571.163	173.09 <sub>3</sub>	15.88	x12[2+] (0.39) : b11-98[2+] (0.38)
574.259	363.87 <sub>3</sub>	33.40	b6-98 (-0.01) : y6 (-0.03)
575.521	113.29 <sub>3</sub>	10.39	
586.958	446.59 <sub>3</sub>	40.99	
605.164	153.52 <sub>3</sub>	14.09	y13[2+] (-0.13)
620.036	1089.37 <sub>3</sub>	100	b11[2+] (0.26)
688.036	81.63 <sub>3</sub>	7.49	b13o[2+] (0.22) : b13*[2+] (-0.26)
696.963	264.64 <sub>3</sub>	24.29	b13[2+] (0.15) : x14[2+] (-0.38)
702.167	97.15 <sub>3</sub>	8.91	y8 (-0.18)
732.324	246.41 <sub>3</sub>	22.61	b14[2+] (-0.00)
733.126	149.53 <sub>3</sub>	13.72	
736.925	45.71 <sub>3</sub>	4.19	
760.745	18.12 <sub>3</sub>	1.66	b15[2+] (-0.09)
783.158	19.90 <sub>3</sub>	1.82	a7* (-0.18)
793.629	20.35 <sub>3</sub>	1.86	
799.349	157.63 <sub>3</sub>	14.46	y9 (-0.05)
800.239	39.01 <sub>3</sub>	3.58	a7 (-0.12)
800.951	31.28 <sub>3</sub>	2.87	a7 (0.58) : y16o[2+] (0.03) : y16*[2+] (-0.46) : z16[2+] (-0.46)
869.992	18.84 <sub>3</sub>	1.72	
953.606	12.68 <sub>3</sub>	1.16	b18[2+] (0.17)
1141.319	173.09 <sub>3</sub>	15.88	
1181.673	76.77 <sub>3</sub>	7.04	
1243.935	25.63 <sub>3</sub>	2.35	
1256.885	111.04 <sub>3</sub>	10.19	
1265.934	20.93 <sub>3</sub>	1.92	
1277.556	39.66 <sub>3</sub>	3.64	
1289.532	86.38 <sub>3</sub>	7.92	a12o (-0.05)
1295.024	60.29 <sub>3</sub>	5.53	b13-98 (0.39)
1350.013	27.52 <sub>3</sub>	2.52	
1365.839	35.49 <sub>3</sub>	3.25	b14-98 (0.17) : y14 (0.15)
1379.647	27.59 <sub>3</sub>	2.53	
1384.522	31.01 <sub>3</sub>	2.84	
1392.919	264.64 <sub>3</sub>	24.29	b13 (0.30)

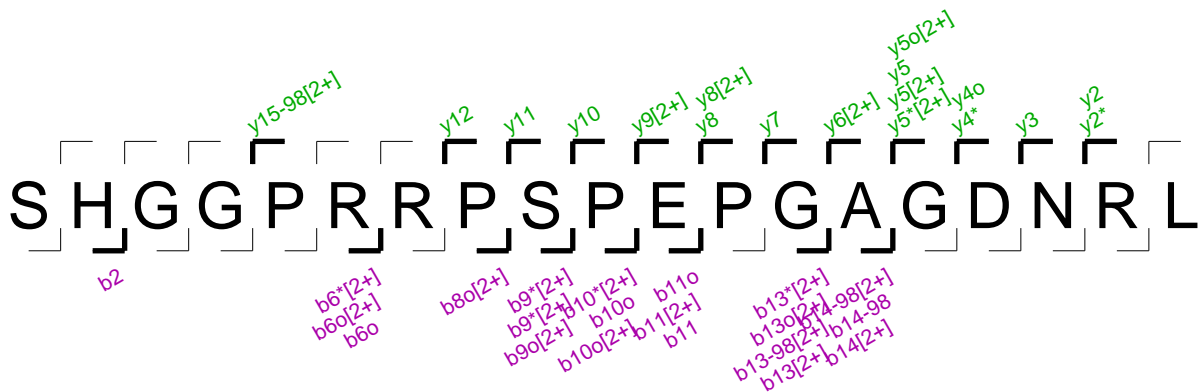
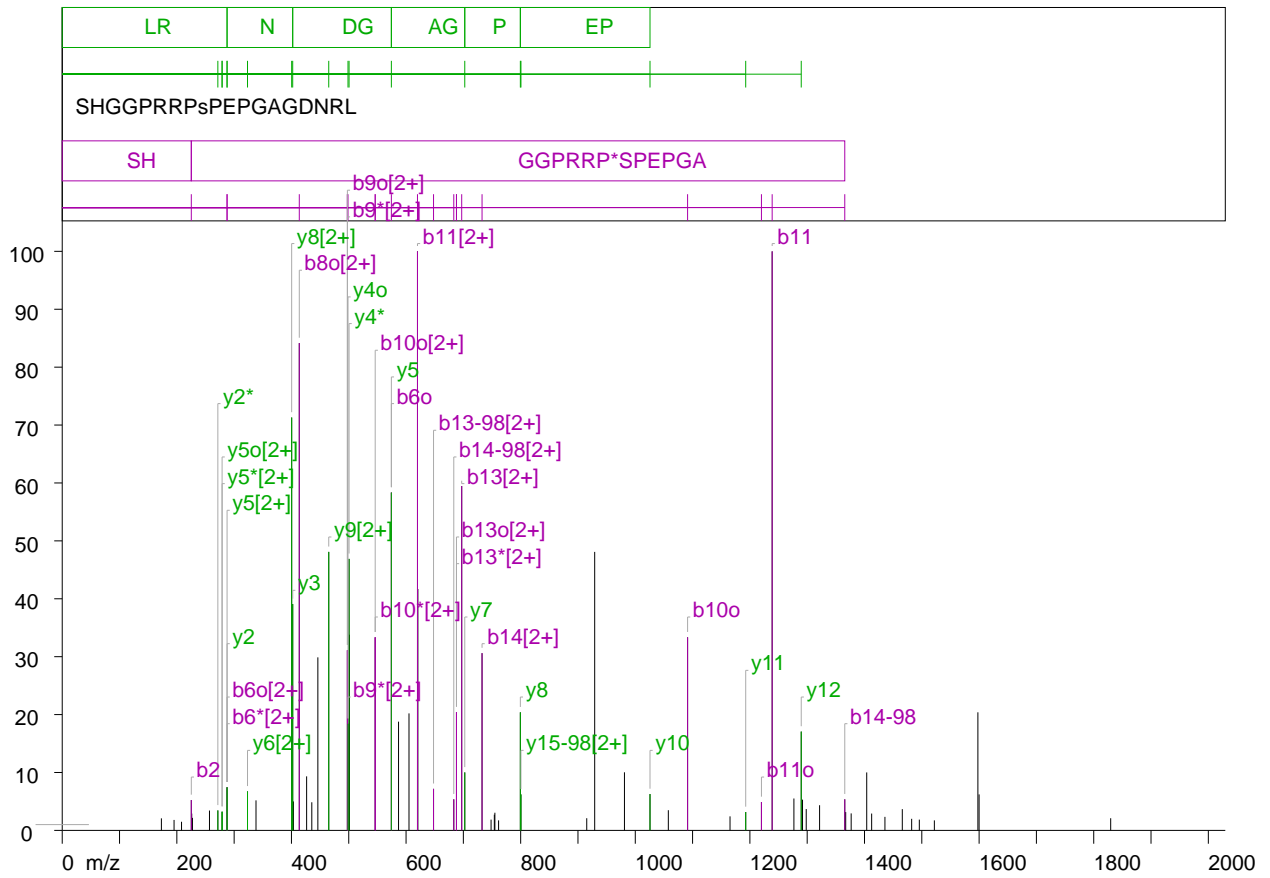
1403.327	97.15 <sub>3</sub>	8.91	
1463.642	246.41 <sub>3</sub>	22.61	b14 (-0.01)
1465.244	149.53 <sub>3</sub>	13.72	
1472.844	45.71 <sub>3</sub>	4.19	
1497.714	12.32 <sub>3</sub>	1.13	
1520.483	18.12 <sub>3</sub>	1.66	b15 (-0.19)
1580.636	15.39 <sub>3</sub>	1.41	
1597.691	157.63 <sub>3</sub>	14.46	
1599.470	39.01 <sub>3</sub>	3.58	
1600.894	31.28 <sub>3</sub>	2.87	y16o (0.06)



S541

# ProPhosSI MS/MS report

Mass: 509.990904 Charge: 4+



## Cav3.2 Rat

(37) 533 SHGGPRRPsPEPGAGDNRL 551 2035.933 (-0.0015) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
9	(541)	Phospho (ST)	presence of b2, y11, y12 exclude a phosphorylation on position1

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	3 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b2 to b13-98[2+], transition y10 to y15-98[2+] support unique phosphorylation at position 9  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y5 to y8.
Five of six sequential ions present	1/1	Five of Six ions found between y2 and y7 Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11
Proline directed fragmentation pattern	2/3	NOTE: G-P is a low abundance fragmentation. PASS: y15-98> y14-98  No proline ions at b5  No proline ions at y12-98 No proline ions at b8  NOTE: S-P is a low abundance fragmentation. FAIL: y10< y9 No proline ions at b10-98  PASS: y8> y7 with ratio 7.12  No proline ions at b12-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 619.937: intensity: 1487.50) assigned 1 times ion 2 (mass: 1238.867: intensity: 1487.50) assigned 1 times ion 3 (mass: 413.698: intensity: 1251.86) assigned 2 times ion 4 (mass: 400.380: intensity: 1060.59) assigned 3 times ion 5 (mass: 697.071: intensity: 884.56) assigned 1 times ion 6 (mass: 574.343: intensity: 867.91) assigned 2 times ion 7 (mass: 929.160: intensity: 715.48) assigned 0 times ion 8 (mass: 465.084: intensity: 715.48) assigned 1 times ion 9 (mass: 500.518: intensity: 697.49) assigned 2 times ion 10 (mass: 620.604: intensity: 620.04) assigned 0 times

### Ion Table

32 ions assigned of 64 ions above threshold (50%).

## N-terminal ions

AA	N-ion	b	b*	b-98	bo
S	1	88.039	71.013	-	70.029
H	2	225.098 225.238 (5)	208.072	-	207.088
G	3	282.120	265.093	-	264.109
G	4	339.141	322.115	-	321.131
P	5	436.194	419.167	-	418.183
R	6	592.295	575.269 *287.652 [2+] (7)	-	574.285 *287.652 [2+] (7) *574.343 (58)
R	7	748.396	731.370	-	730.386
P	8	845.449	828.422	-	827.438 *413.698 [2+] (84)
s	9	1012.447	995.421 *498.684 [2+] (18) *497.624 [2+] (31)	914.461	994.437 *497.624 [2+] (31)
P	10	1109.500	1092.474 *546.150 [2+] (33)	1011.514	1091.490 1091.292 (33) *546.150 [2+] (33)
E	11	1238.543 619.937 [2+] (100) 1238.867 (100)	1221.516	1140.557	1220.532 *1220.133 (4)
P	12	1335.595	1318.569	1237.610	1317.585
G	13	1392.617 697.071 [2+] (59)	1375.590 *687.962 [2+] (20)	1294.631 647.928 [2+] (7)	1374.606 *687.962 [2+] (20)
A	14	1463.654 732.605 [2+] (30)	1446.628	1365.668 *683.288 [2+] (5) 1365.569 (5)	1445.643
G	15	1520.676	1503.649	1422.690	1502.665
D	16	1635.702	1618.676	1537.717	1617.692
N	17	1749.745	1732.719	1651.759	1731.735
R	18	1905.847	1888.820	1807.861	1887.836
L	19	-	-	-	-

## C-terminal ions

AA	C-ion	y	y*	y-98	yo
S	19	-	-	-	-
H	18	1949.909	1932.883	1851.923	1931.899
G	17	1812.850	1795.824	1714.864	1794.840
G	16	1755.829	1738.802	1657.843	1737.818
P	15	1698.807	1681.781	1600.821 *800.485 [2+] (6)	1680.797
R	14	1601.754	1584.728	1503.769	1583.744
R	13	1445.653	1428.627	1347.667	1427.643
P	12	1289.552 *1289.619 (17)	1272.526	1191.566	1271.542
s	11	1192.499 *1192.688 (3)	1175.473	1094.514	1174.489
P	10	1025.501 1025.696 (6)	1008.475	-	1007.491
E	9	928.448 465.084 [2+] (48)	911.422	-	910.438
P	8	799.406 *799.428 (20)	782.379	-	781.395

-	-	*400.380 [2+] (71)	-	-	-
G	7	702.353 *702.432 (10)	685.326	-	684.342
A	6	645.332 323.318 [2+] (6)	628.305	-	627.321
G	5	574.294 *287.652 [2+] (7) *574.343 (58)	557.268 *278.979 [2+] (3)	-	556.284 *278.979 [2+] (3)
D	4	517.273	500.246 *500.518 (46)	-	499.262 *498.684 (18)
N	3	402.246 402.204 (39)	385.219	-	384.235
R	2	288.203 *287.652 (7)	271.177 *271.563 (3)	-	270.193
L	1	132.102	115.075	-	114.091

### Ion distribution

Threshold	Ion count	Matches	% matched
0	96	42	43
0.5	86	40	46
1	70	35	50
2	63	32	50
3	53	30	56
4	44	27	61
5	40	26	65
10	27	18	66

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
173.048	30.96 <sub>s</sub>	2.08	
195.142	26.90 <sub>s</sub>	1.80	a5o[2+] (-0.45)
208.192	22.19 <sub>s</sub>	1.49	b2* (0.11)
225.238	78.05 <sub>s</sub>	5.24	b2 (0.13)
226.008	43.22 <sub>s</sub>	2.90	
227.211	32.21 <sub>s</sub>	2.16	c5[2+] (0.09)
256.955	51.00 <sub>s</sub>	3.42	
271.563	51.30 <sub>s</sub>	3.44	y2* (0.38) : z2 (0.38)
278.979	48.02 <sub>s</sub>	3.22	y5o[2+] (0.33) : y5*[2+] (-0.15) : z5[2+] (-0.15)
287.652	110.68 <sub>s</sub>	7.44	b6o[2+] (0.00) : y5[2+] (0.00) : b6*[2+] (-0.48) : y2 (-0.55)
323.318	100.20 <sub>s</sub>	6.73	y6[2+] (0.14)
338.148	77.15 <sub>s</sub>	5.18	
400.380	1060.59 <sub>s</sub>	71.30	y8[2+] (0.17) : a8o[2+] (0.15) : a8*[2+] (-0.33)
402.204	581.48 <sub>s</sub>	39.09	y3 (-0.04)
403.400	74.40 <sub>s</sub>	5.00	
413.698	1251.86 <sub>s</sub>	84.15	x8[2+] (-0.50) : b8o[2+] (-0.52)
426.507	138.82 <sub>s</sub>	9.33	

435.522	72.26 <sub>s</sub>	4.85	
446.060	444.53 <sub>s</sub>	29.88	
465.084	715.48 <sub>s</sub>	48.09	y9[2+] (0.35)
497.624	462.86 <sub>s</sub>	31.11	b9o[2+] (-0.09) : b9*[2+] (-0.59)
498.684	273.92 <sub>s</sub>	18.41	b9*[2+] (0.46) : y4o (-0.57)
500.518	697.49 <sub>s</sub>	46.89	y4* (0.27) : z4 (0.27)
501.287	502.69 <sub>s</sub>	33.79	
546.150	496.02 <sub>s</sub>	33.34	b10o[2+] (-0.09) : a6o (-0.14) : b10*[2+] (-0.59)
574.343	867.91 <sub>s</sub>	58.34	b6o (0.05) : y5 (0.04)
586.852	279.35 <sub>s</sub>	18.77	
605.124	300.58 <sub>s</sub>	20.20	
619.937	1487.50 <sub>s</sub>	100	b11[2+] (0.16)
620.604	620.04 <sub>s</sub>	41.68	
647.928	106.71 <sub>s</sub>	7.17	b13-98[2+] (0.10)
683.288	79.85 <sub>s</sub>	5.36	a13[2+] (0.47) : b14-98[2+] (-0.05)
687.962	304.09 <sub>s</sub>	20.44	b13o[2+] (0.15) : b13*[2+] (-0.33)
697.071	884.56 <sub>s</sub>	59.46	b13[2+] (0.25)
702.432	148.92 <sub>s</sub>	10.01	y7 (0.07) : a7o (0.04)
732.605	455.35 <sub>s</sub>	30.61	b14[2+] (0.27)
748.337	27.72 <sub>s</sub>	1.86	b7 (-0.05)
753.995	40.40 <sub>s</sub>	2.71	
755.006	45.42 <sub>s</sub>	3.05	
761.457	25.75 <sub>s</sub>	1.73	
799.428	303.37 <sub>s</sub>	20.39	y8 (0.02) : a8o (-0.01)
800.485	92.45 <sub>s</sub>	6.21	a8* (0.05) : y15-98[2+] (-0.42)
915.313	31.26 <sub>s</sub>	2.10	
929.160	715.48 <sub>s</sub>	48.09	
981.120	149.25 <sub>s</sub>	10.03	
1025.696	93.38 <sub>s</sub>	6.27	y10 (0.19)
1057.682	51.85 <sub>s</sub>	3.48	
1091.292	496.02 <sub>s</sub>	33.34	b10o (-0.19)
1165.348	36.08 <sub>s</sub>	2.42	
1192.688	47.21 <sub>s</sub>	3.17	y11 (0.18) : a11o (0.15)
1220.133	72.89 <sub>s</sub>	4.90	x11 (-0.36) : b11o (-0.39)
1238.867	1487.50 <sub>s</sub>	100	b11 (0.32)
1276.813	81.94 <sub>s</sub>	5.50	
1289.619	253.88 <sub>s</sub>	17.06	y12 (0.06) : a12o (0.02)
1291.850	78.99 <sub>s</sub>	5.31	
1298.301	54.84 <sub>s</sub>	3.68	
1321.620	64.67 <sub>s</sub>	4.34	
1365.569	79.85 <sub>s</sub>	5.36	b14-98 (-0.09)
1367.179	47.07 <sub>s</sub>	3.16	
1376.752	43.66 <sub>s</sub>	2.93	

1403.857	148.92,	10.01	
1412.495	43.28,	2.90	
1435.663	34.79,	2.33	a14 (0.00)
1465.961	54.60,	3.67	
1482.285	29.77,	2.00	
1495.667	27.72,	1.86	
1521.907	25.75,	1.73	
1597.849	303.37,	20.39	
1599.963	92.45,	6.21	
1829.618	31.26,	2.10	

S559

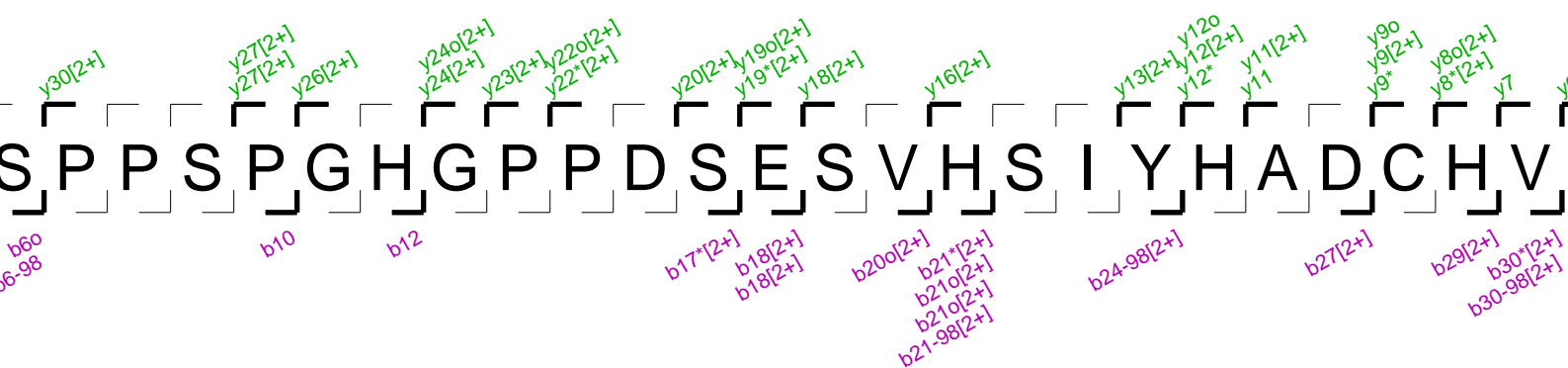
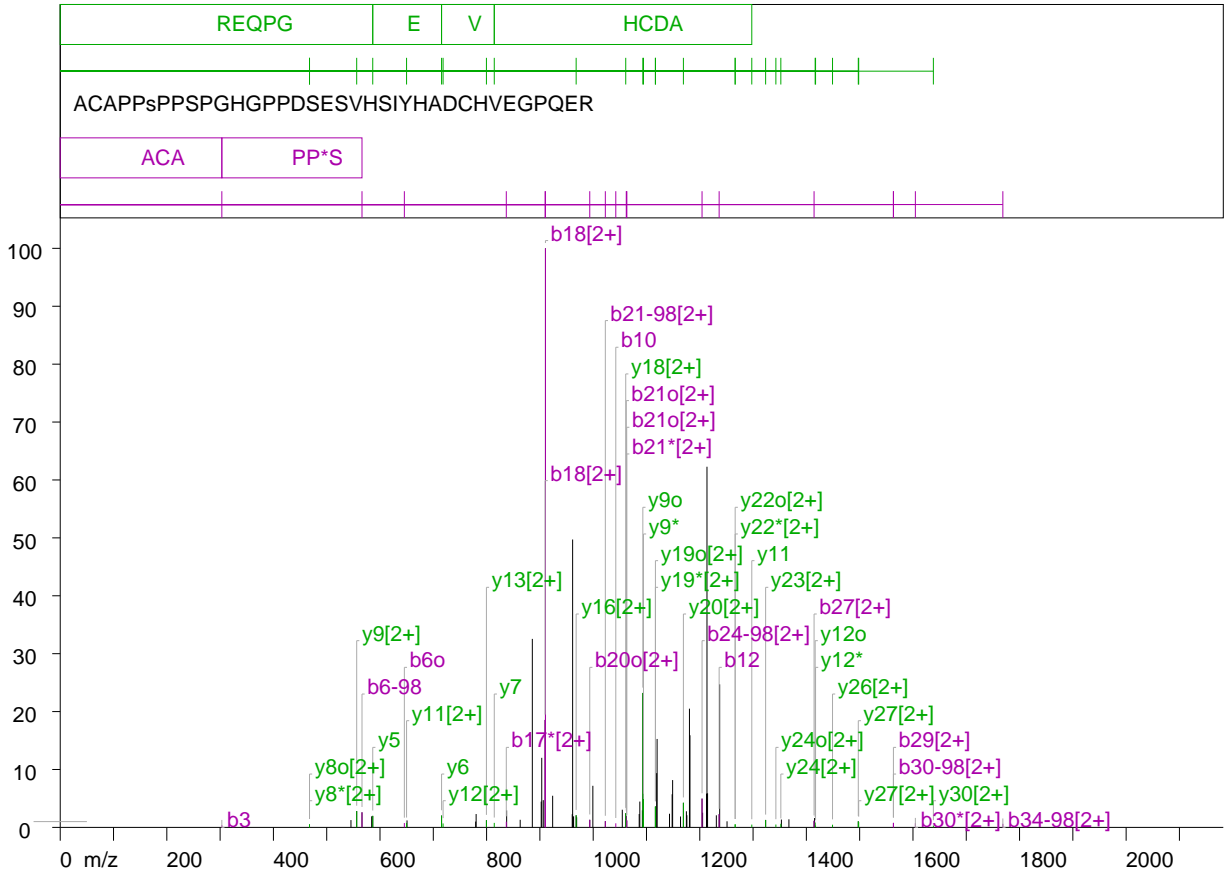
or

S562



# ProPhosSI MS/MS report

Mass: 985.424194335938 Charge: 4+



## Cav3.2 Rat

(19) 554 ACAPP<sub>5</sub>PP<sub>5</sub>PGHGPPDSESVHSIYHADCHVEGPQR 589 3937.657 (0.0079) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
6 or 9	(559) or 562	Phospho (ST)	all the y ions from y20 to y27 exclude a phosphorylation on other positions

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	5 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b3 to b6-98 not considered because the mass of b6-98 could correspond to the mass of b6° non phosphorylated.
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	5/5	No proline ions at y33-98 PASS: b4< b3  NOTE: P-P is a low abundance fragmentation. No proline ions at y32-98 No proline ions at b5  NOTE: S-P is a low abundance fragmentation. PASS: y30> y29  PASS: b7-98< b6-98  NOTE: P-P is a low abundance fragmentation. No proline ions at y29 No proline ions at b8-98  NOTE: S-P is a low abundance fragmentation. PASS: y27> y26 with ratio 2.27  No proline ions at b10-98  NOTE: G-P is a low abundance fragmentation. PASS: y23> y22  No proline ions at b14-98  NOTE: P-P is a low abundance fragmentation. No proline ions at y22 No proline ions at b15-98  NOTE: G-P is a low abundance fragmentation. No proline ions at y4 No proline ions at b33-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	4/6	ion 1 (mass: 910.4383545: intensity: 94351.7734375) assigned 1 times ion 2 (mass: 1213.534912: intensity: 58768.3984375) assigned 0 times ion 3 (mass: 961.4415894: intensity: 46910.39453125) assigned 1 times ion 4 (mass: 885.8071289: intensity: 30716.29296875) assigned 0 times ion 5 (mass: 1237.360229: intensity: 23310.91796875) assigned 0 times ion 6 (mass: 1093.168701: intensity: 21908.361328125) assigned 1 times ion 7 (mass: 1180.652588: intensity: 19345.45703125) assigned 0 times ion 8 (mass: 909.7832642: intensity: 17507.025390625) assigned 1 times ion 9 (mass: 1181.585571: intensity: 15012.19140625) assigned 0 times ion 10 (mass: 1119.945557: intensity: 14411.041015625) assigned 0 times

## Ion Table

56 ions assigned of 132 ions above threshold (42%).

N-terminal ions

AA	N-ion	b	b*	b-98	bo
A	1	72.044	55.018	-	54.034
C	2	232.075	215.049	-	214.065
A	3	303.112 303.241272 (0)	286.086	-	285.102
P	4	400.165	383.138	-	382.154
P	5	497.218	480.191	-	479.207
s	6	664.216	647.190	566.230 566.2172241 (2)	646.206 645.6709595 (0)
P	7	761.269	744.242	663.283	743.258
P	8	858.322	841.295	760.336	840.311
S	9	945.354	928.327	847.368	927.343
P	10	1042.406 1042.434448 (0)	1025.380	944.421	1024.396
G	11	1099.428	1082.401	1001.442	1081.417
H	12	1236.487 1236.358643 (2)	1219.460	1138.501	1218.476
G	13	1293.508	1276.482	1195.522	1275.498
P	14	1390.561	1373.534	1292.575	1372.550
P	15	1487.614	1470.587	1389.628	1469.603
D	16	1602.641	1585.614	1504.655	1584.630
S	17	1689.673	1672.646 836.9517212 [2+] (0)	1591.687	1671.662
E	18	1818.715 910.4383545 [2+] (100) 909.7832642 [2+] (18)	1801.689	1720.729	1800.705
S	19	1905.747	1888.721	1807.762	1887.737
V	20	2004.816	1987.789	1906.830	1986.805 993.5709229 [2+] (1)
H	21	2141.875	2124.848 *1062.855225 [2+] (1)	2043.889 1022.79364 [2+] (1)	2123.864 1062.075806 [2+] (1) *1062.855225 [2+] (1)
S	22	2228.907	2211.880	2130.921	2210.896
I	23	2341.991	2324.964	2244.005	2323.980
Y	24	2505.054	2488.028	2407.068 1204.275635 [2+] (4)	2487.044
H	25	2642.113	2625.087	2544.127	2624.103
A	26	2713.150	2696.124	2615.164	2695.140
D	27	2828.177 1414.431396 [2+] (1)	2811.151	2730.191	2810.167
C	28	2988.208	2971.181	2890.222	2970.197
H	29	3125.267 *1563.34668 [2+] (0)	3108.240	3027.281	3107.256
V	30	3224.335	3207.309 1604.505615 [2+] (0)	3126.349 *1563.34668 [2+] (0)	3206.325
E	31	3353.378	3336.351	3255.392	3335.367
G	32	3410.399	3393.373	3312.413	3392.389
P	33	3507.452	3490.425	3409.466	3489.441
Q	34	3635.511	3618.484	3537.525 1768.699219 [2+] (0)	3617.500
E	35	3764.553	3747.527	3666.567	3746.543

R	36	-	-	-	-
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### C-terminal ions

AA	C-ion	y	y*	y-98	yo
A	36	-	-	-	-
C	35	3867.628	3850.601	3769.642	3849.617
A	34	3707.597	3690.571	3609.611	3689.587
P	33	3636.560	3619.533	3538.574	3618.549
P	32	3539.507	3522.481	3441.521	3521.497
s	31	3442.454	3425.428	3344.469	3424.444
P	30	3275.456 1638.304199 [2+] (0)	3258.430	-	3257.446
P	29	3178.403	3161.377	-	3160.393
S	28	3081.351	3064.324	-	3063.340
P	27	2994.319 1497.449219 [2+] (1) 1498.17334 [2+] (0)	2977.292	-	2976.308
G	26	2897.266 1449.087158 [2+] (0)	2880.239	-	2879.255
H	25	2840.244	2823.218	-	2822.234
G	24	2703.185 1352.094238 [2+] (0)	2686.159	-	2685.175 *1342.804932 [2+] (0)
P	23	2646.164 1323.548584 [2+] (1)	2629.137	-	2628.153
P	22	2549.111	2532.085 *1266.396851 [2+] (0)	-	2531.101 *1266.396851 [2+] (0)
D	21	2452.058	2435.032	-	2434.048
S	20	2337.031 1169.270996 [2+] (4)	2320.005	-	2319.021
E	19	2249.999	2232.973 *1116.796631 [2+] (3)	-	2231.989 *1116.796631 [2+] (3)
S	18	2120.957 1061.062012 [2+] (2)	2103.930	-	2102.946
V	17	2033.925	2016.898	-	2015.914
H	16	1934.856 968.0327759 [2+] (2)	1917.830	-	1916.846
S	15	1797.797	1780.771	-	1779.787
I	14	1710.765	1693.739	-	1692.755
Y	13	1597.681 799.6922607 [2+] (1)	1580.655	-	1579.671
H	12	1434.618 718.3549805 [2+] (0)	1417.591 *1417.256348 (0)	-	1416.607 1416.521729 (0)
A	11	1297.559 1297.609131 (0) 649.8455811 [2+] (0)	1280.533	-	1279.549
D	10	1226.522	1209.495	-	1208.511
C	9	1111.495 556.2467651 [2+] (2)	1094.468 *1094.369385 (4)	-	1093.484 1093.168701 (23)
H	8	951.464	934.438 *467.7352295 [2+] (0)	-	933.454 *467.7352295 [2+] (0)
V	7	814.405 814.3945923 (0)	797.379	-	796.395
E	6	715.337 *715.5177002 (2)	698.310	-	697.326
G	5	586.294	569.268	-	568.284

-	-	586.4112549 (1)	-	-	-
P	4	529.273	512.246	-	511.262
Q	3	432.220	415.194	-	414.210
E	2	304.162	287.135	-	286.151
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	170	74	43
0.5	107	49	45
1	63	29	46
2	42	19	45
3	26	11	42
4	24	9	37
5	18	6	33
10	11	4	36

### Observed ions > 1%

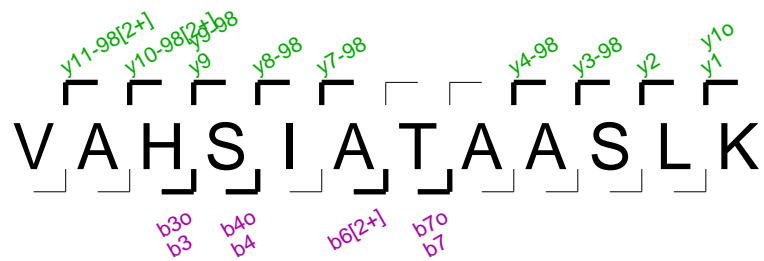
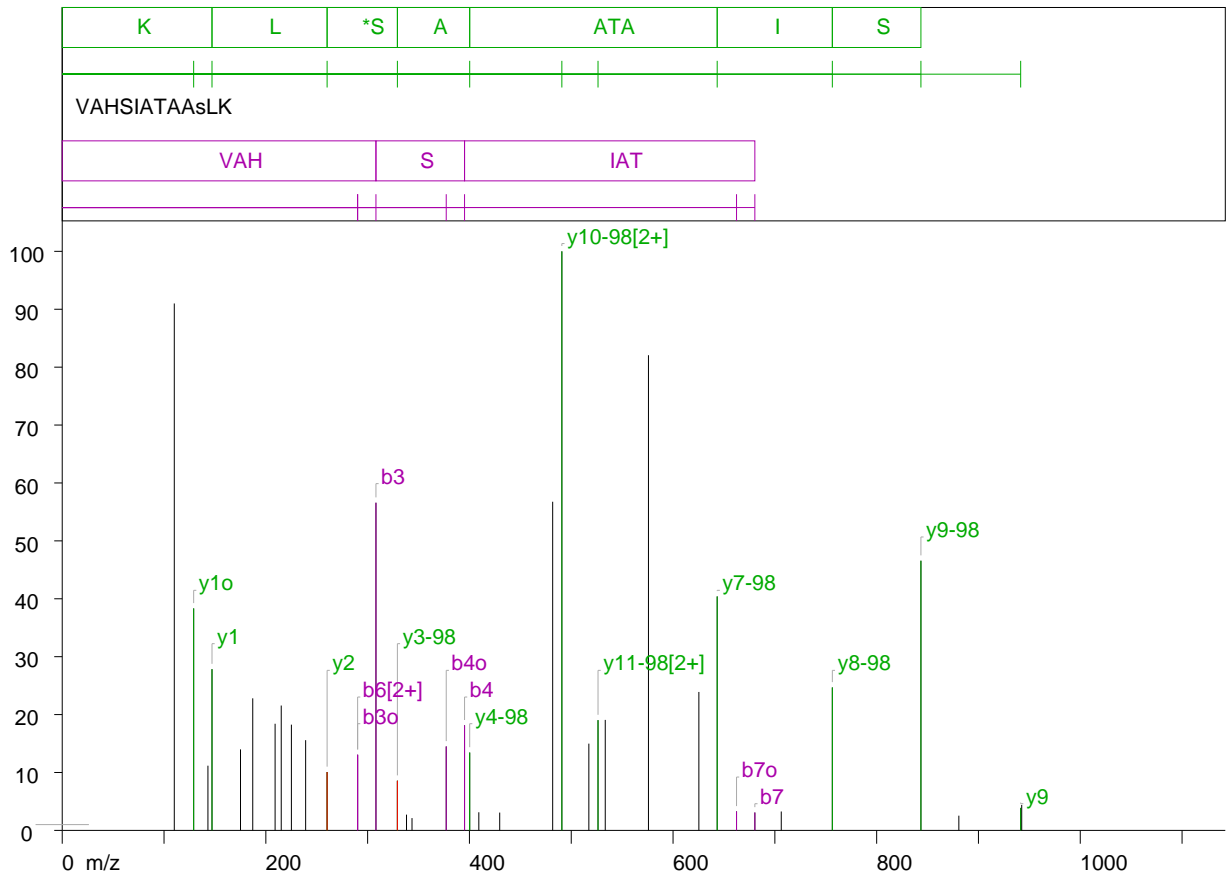
m/z	Intensity	% max	Assignment (delta)
545.5272217	1193.2447509766	1.26	
556.2467651	2661.5319824219	2.82	y9[2+] (-0.00)
566.2172241	2459.9357910156	2.60	b6-98 (-0.01)
584.3271484	1809.8114013672	1.91	
586.4112549	1878.4458007813	1.99	y5 (0.11)
650.6784668	1139.0759277344	1.20	
715.5177002	1925.49609375	2.04	a7o (0.25) : y6 (0.18)
780.3436279	2175.9360351563	2.30	
799.6922607	1170.818359375	1.24	y13[2+] (0.34)
837.6261597	2764.1960449219	2.92	
863.0488892	1240.1927490234	1.31	
885.8071289	30716.29296875	32.55	
902.4937134	4202.1596679688	4.45	
903.484375	11337.5947265625	12.01	
906.3357544	4437.177734375	4.70	
909.7832642	17507.025390625	18.55	b18[2+] (-0.07)
910.4383545	94351.7734375	100	b18[2+] (0.57)
923.9354858	5156.0747070313	5.46	
960.6843872	2147.9301757813	2.27	
961.4415894	46910.39453125	49.71	c19[2+] (-0.44)
962.5379639	1699.9114990234	1.80	c9 (0.15)
963.2283325	1804.8911132813	1.91	
968.0327759	1974.0510253906	2.09	y16[2+] (0.10)

968.9866943	1648.7102050781 <sub>5</sub>	1.74	
993.5709229	1239.6409912109 <sub>5</sub>	1.31	b20o[2+] (-0.33)
999.3887329	6778.51171875 <sub>5</sub>	7.18	
1022.79364	1020.1750488281 <sub>5</sub>	1.08	b21-98[2+] (0.34)
1054.626587	2880.7724609375 <sub>5</sub>	3.05	a11* (0.21)
1061.062012	2308.2763671875 <sub>5</sub>	2.44	y18[2+] (0.07)
1062.075806	1836.8203125 <sub>5</sub>	1.94	b21o[2+] (-0.36)
1062.855225	1125.7318115234 <sub>5</sub>	1.19	b21o[2+] (0.41) : b21*[2+] (-0.07)
1086.339478	2177.95703125 <sub>5</sub>	2.30	
1087.515625	4209.771484375 <sub>5</sub>	4.46	
1092.319214	2786.5053710938 <sub>5</sub>	2.95	a22o[2+] (0.36) : a22*[2+] (-0.12)
1093.168701	21908.361328125 <sub>5</sub>	23.21	y9o (-0.31)
1094.369385	4606.2114257813 <sub>5</sub>	4.88	y9* (-0.09) : z9 (-0.09)
1116.796631	3395.3918457031 <sub>5</sub>	3.59	c11 (0.34) : y19o[2+] (0.29) : y19*[2+] (-0.19) : z19[2+] (-0.19)
1119.152222	8841.396484375 <sub>5</sub>	9.37	
1119.945557	14411.041015625 <sub>5</sub>	15.27	
1143.224609	2223.5974121094 <sub>5</sub>	2.35	
1148.159424	5398.962890625 <sub>5</sub>	5.72	a23o[2+] (-0.33)
1149.062866	7710.0122070313 <sub>5</sub>	8.17	a23o[2+] (0.56) : a23*[2+] (0.07)
1163.873535	1773.6077880859 <sub>5</sub>	1.87	
1169.270996	4013.6889648438 <sub>5</sub>	4.25	y20[2+] (0.25)
1174.878174	2628.1606445313 <sub>5</sub>	2.78	
1175.789917	1982.1311035156 <sub>5</sub>	2.10	
1180.652588	19345.45703125 <sub>5</sub>	20.50	
1181.585571	15012.19140625 <sub>5</sub>	15.91	
1204.275635	4690.26171875 <sub>5</sub>	4.97	b24-98[2+] (0.23)
1205.290405	2398.0725097656 <sub>5</sub>	2.54	
1212.640869	5507.583984375 <sub>5</sub>	5.83	
1213.534912	58768.3984375 <sub>5</sub>	62.28	
1214.637695	5556.5961914063 <sub>5</sub>	5.88	
1231.060547	1970.6368408203 <sub>5</sub>	2.08	a24*[2+] (0.54)
1236.358643	2151.4948730469 <sub>5</sub>	2.28	b12 (-0.12)
1237.360229	23310.91796875 <sub>5</sub>	24.70	
1251.167725	991.7432250977 <sub>5</sub>	1.05	
1323.548584	1214.2867431641 <sub>5</sub>	1.28	y23[2+] (-0.03)
1353.148438	1281.25 <sub>5</sub>	1.35	
1367.243408	1316.9381103516 <sub>5</sub>	1.39	
1414.431396	1077.8884277344 <sub>5</sub>	1.14	b27[2+] (-0.16)
1415.428223	1530.1982421875 <sub>5</sub>	1.62	
1497.449219	996.2253417969 <sub>5</sub>	1.05	y27[2+] (-0.21)

S601

# ProPhosSI MS/MS report

Mass: 624.819760 Charge: 2+





## Cav3.2 Rat

(28) 592 VAHSIATAAsLK 603 1247.627 (-0.0036) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
10	(601)	Phospho (ST)	y2 => y3-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	7 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y2 to y3-98 support unique phosphorylation at position 10  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y1 to y4-98.
Five of six sequential ions present	1/1	Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12
Proline directed fragmentation pattern	0/0	
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 490.7841791: intensity: 56085.75390625) assigned 1 times ion 2 (mass: 110.0717265: intensity: 51038.71484375) assigned 0 times ion 3 (mass: 575.835008: intensity: 46024.7734375) assigned 0 times ion 4 (mass: 481.7737156: intensity: 31834.333984375) assigned 0 times ion 5 (mass: 308.1711228: intensity: 31736.6015625) assigned 1 times ion 6 (mass: 843.4831287: intensity: 26121.78125) assigned 1 times ion 7 (mass: 643.3742417: intensity: 22661.888671875) assigned 1 times ion 8 (mass: 129.1027722: intensity: 21499.732421875) assigned 1 times ion 9 (mass: 147.1137162: intensity: 15616.99609375) assigned 1 times ion 10 (mass: 756.4721571: intensity: 13844.4189453125) assigned 1 times

### Ion Table

19 ions assigned of 37 ions above threshold (51%).

#### N-terminal ions

AA	N-ion	b	b*	b-98	bo
V	1	100.076	83.049	-	82.065
A	2	171.113	154.086	-	153.102
H	3	308.172 308.1711228 (56)	291.145	-	290.161 *290.1600238 (13)
S	4	395.204 395.2012701 (18)	378.177	-	377.193 377.1940986 (14)
I	5	508.288	491.261	-	490.277
A	6	579.325	562.298	-	561.314

-	-	*290.1600238 [2+] (13)	-	-	-
T	7	680.373 680.37 (3)	663.346	-	662.362 662.3550733 (3)
A	8	751.410	734.383	-	733.399
A	9	822.447	805.420	-	804.436
s	10	989.445	972.419	891.459	971.435
L	11	1102.529	1085.503	1004.543	1084.519
K	12	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
V	12	-	-	-	-
A	11	1149.566	1132.540	1051.581 526.2947009 [2+] (19)	1131.556
H	10	1078.529	1061.503	980.543 490.7841791 [2+] (100)	1060.519
S	9	941.470 941.463748 (3)	924.444	843.484 843.4831287 (46)	923.460
I	8	854.438	837.412	756.452 756.4721571 (24)	836.428
A	7	741.354	724.328	643.368 643.3742417 (40)	723.344
T	6	670.317	653.291	572.331	652.307
A	5	569.269	552.243	471.284	551.259
A	4	498.232	481.206	400.246 400.2543806 (13)	480.222
s	3	427.195	410.169	329.209 329.2186941 (8)	409.185
L	2	260.197 260.1984511 (10)	243.170	-	242.186
K	1	147.113 147.1137162 (27)	130.086	-	129.102 129.1027722 (38)

### Ion distribution

Threshold	Ion count	Matches	% matched
0	37	19	51
0.5	37	19	51
1	37	19	51
2	37	19	51
3	34	19	55
4	28	16	57
5	27	16	59
10	26	15	57

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
110.0717265	51038.71484375,	91.00	
129.1027722	21499.732421875,	38.33	y1o (-2.27)

143.1181904	6267.6850585938,	11.17	a2 (-0.00)
147.1137162	15616.99609375,	27.84	y1 (0.00)
175.1189387	7846.4360351563,	13.99	a4o[2+] (0.01) : x1 (0.01)
187.1441932	12792.2021484375,	22.80	
209.1030746	10330.2841796875,	18.41	
215.1397966	12094.00390625,	21.56	
225.0977782	10242.060546875,	18.26	
239.0950025	8738.921875,	15.58	
260.1984511	5656.5092773438,	10.08	y2 (0.00)
290.1600238	7325.97265625,	13.06	b3o (-0.00) : b6[2+] (-0.00)
308.1711228	31736.6015625,	56.58	b3 (-0.00)
329.2186941	4811.6787109375,	8.57	y3-98 (0.00)
338.1852229	1526.6304931641,	2.72	
343.5815347	1190.7426757813,	2.12	
377.1940986	8131.3642578125,	14.49	b4o (0.00)
395.2012701	10176.0068359375,	18.14	b4 (-0.00)
400.2543806	7540.76953125,	13.44	y4-98 (0.00)
409.2200327	1756.0395507813,	3.13	
429.7391961	1726.3359375,	3.07	
481.7737156	31834.333984375,	56.76	
490.7841791	56085.75390625,	100	y10-98[2+] (0.00)
517.2889014	8403.28515625,	14.98	
526.2947009	10679.2451171875,	19.04	y11-98[2+] (0.00)
533.4082106	10702.7275390625,	19.08	
575.835008	46024.7734375,	82.06	
625.3557904	13409.9736328125,	23.90	
643.3742417	22661.888671875,	40.40	y7-98 (0.00)
662.3550733	1836.5678710938,	3.27	b7o (-0.00)
680.37	1732.8216552734,	3.08	b7 (-0.00)
706.3032368	1831.3403320313,	3.26	
756.4721571	13844.4189453125,	24.68	y8-98 (0.01)
843.4831287	26121.78125,	46.57	y9-98 (-0.00)
880.7306716	1426.1782226563,	2.54	
941.463748	2179.0361328125,	3.88	y9 (-0.00)
942.4783185	2468.0009765625,	4.40	

S647 and

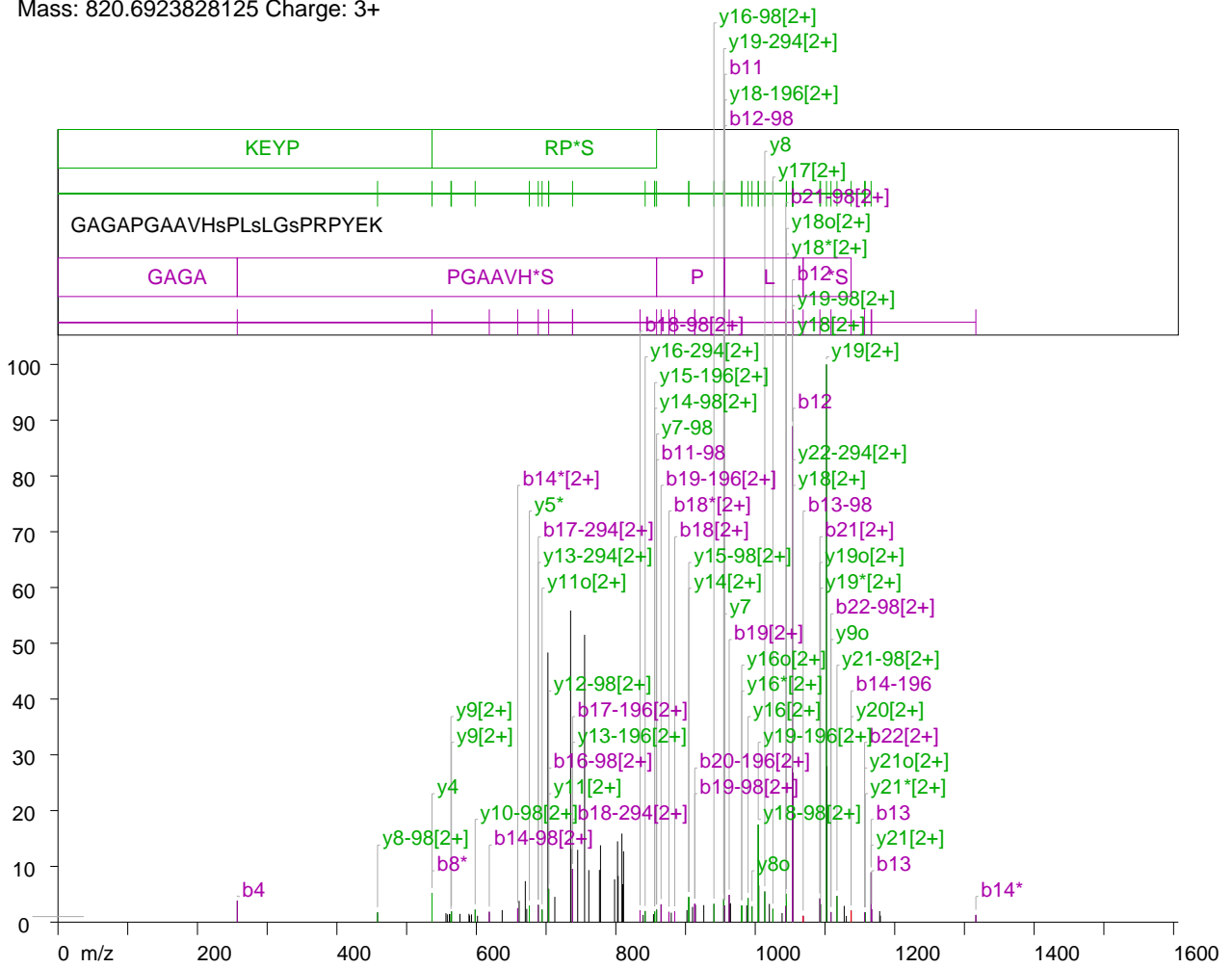
S650 and

S653

(trip)

# ProPhosSI MS/MS report

Mass: 820.6923828125 Charge: 3+



## Cav3.2 Rat

(34) 637 GAGAPGAAVHsPLsLGsPRPYEK 659 2458.048 (1.0051) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
11	(647)	Phospho (ST)	
14	(650)	Phospho (ST)	b13-98 => b14-196
17	(653)	Phospho (ST)	

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 3 phosphate ions were not found
Three -98 Ions present	1/1	12 des-phospho fragment ions were found.
Unique -98 transitions present	3/3	transition b4 to b11-98 support unique phosphorylation at position 11  transition b13-98 to b14-196 support unique phosphorylation at position 14  transition b14-196 to b17-294, transition y4 to y7-98 support unique phosphorylation at position 17  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b11-98 to b14-196.
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	3/5	PASS: y19-294> y18-294  PASS: b5< b4  NOTE: S-P is a low abundance fragmentation. No proline ions at y12-196 FAIL: b12-98> b11-98 NOTE: S-P is a low abundance fragmentation. No proline ions at y6 FAIL: b18-294> b17-294 PASS: y4> y3  No proline ions at b20-294 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	4/6	ion 1 (mass: 1102.118042: intensity: 7456.8642578125) assigned 1 times ion 2 (mass: 1053.247559: intensity: 6627.9697265625) assigned 3 times ion 3 (mass: 735.1524658: intensity: 4166.8247070313) assigned 0 times ion 4 (mass: 755.2486572: intensity: 3841.9301757813) assigned 0 times ion 5 (mass: 702.6068115: intensity: 3605.36328125) assigned 0 times ion 6 (mass: 1102.917236: intensity: 2084.8635253906) assigned 0 times ion 7 (mass: 1054.005127: intensity: 1995.7211914063) assigned 3 times ion 8 (mass: 1004.314209: intensity: 1303.9248046875) assigned 2 times ion 9 (mass: 808.7316895: intensity: 1184.779296875) assigned 0 times ion 10 (mass: 802.5161133: intensity: 1080.5546875) assigned 0 times

## Ion Table

55 ions assigned of 93 ions above threshold (59%).

### N-terminal ions

AA	N-ion	b	b*	b-196	b-294	b-98	bo
G	1	58.029	41.002	-	-	-	40.018
A	2	129.066	112.039	-	-	-	111.055
G	3	186.087	169.061	-	-	-	168.077
A	4	257.125 257.096283 (3)	240.098	-	-	-	239.114
P	5	354.177	337.151	-	-	-	336.167
G	6	411.199	394.172	-	-	-	393.188
A	7	482.236	465.209	-	-	-	464.225
A	8	553.273	536.246 *536.3874512 (5)	-	-	-	535.262
V	9	652.341	635.315	-	-	-	634.331
H	10	789.400	772.374	-	-	-	771.390
s	11	956.399 *955.859375 (3)	939.372	-	-	858.413 *858.4998779 (2)	938.388
P	12	1053.451 *1054.005127 (26) *1053.247559 (88)	1036.425	-	-	955.466 *955.859375 (3)	1035.441
L	13	1166.535 1166.994141 (2) *1166.178589 (8)	1149.509	-	-	1068.550 1068.690186 (1)	1148.525
s	14	1333.534	1316.507 1316.391724 (1) 659.258606 [2+] (2)	1137.562 *1137.460327 (2)	-	1235.548 618.5253296 [2+] (1)	1315.523
L	15	1446.618	1429.591	1250.646	-	1348.632	1428.607
G	16	1503.639	1486.613	1307.668	-	1405.653 *703.715271 [2+] (5)	1485.629
s	17	1670.638	1653.611	1474.666 *737.9445801 [2+] (9)	1376.680 *688.7616577 [2+] (3)	1572.652	1652.627
P	18	1767.690 884.5483398 [2+] (1)	1750.664 876.1865234 [2+] (1)	1571.719	1473.733 *737.9445801 [2+] (9)	1669.705 834.7575684 [2+] (2)	1749.680
R	19	1923.792 962.5772705 [2+] (4)	1906.765	1727.820 864.927124 [2+] (3)	1629.834	1825.806 *913.2658691 [2+] (3)	1905.781
P	20	2020.844	2003.818	1824.873 *913.2658691 [2+] (3)	1726.887	1922.858	2002.834
Y	21	2183.908 *1092.739868 [2+] (4)	2166.881	1987.936	1889.950	2085.922 1043.813354 [2+] (2)	2165.897
E	22	2312.950 *1156.828857 [2+] (1)	2295.924	2116.978	2018.993	2214.964 *1108.576416 [2+] (1)	2294.940
K	23	-	-	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-196	y-294	y-98	yo
G	23	-	-	-	-	-	-
A	22	2402.034	2385.008	2206.063	2108.077 *1054.005127 [2+] (26)	2304.048	2384.024

G	21	2330.997 *1166.178589 [2+] (8)	2313.971 *1157.822144 [2+] (1)	2135.025	2037.040	2233.011 1117.206787 [2+] (4)	2312.987 *1156.828857 [2+] (1)
A	20	2273.976 *1137.460327 [2+] (2)	2256.949	2078.004	1980.018	2175.990	2255.965
P	19	2202.939 1102.118042 [2+] (100)	2185.912 *1093.608643 [2+] (3)	2006.967 *1004.314209 [2+] (17)	1908.981 954.699585 [2+] (4)	2104.953 *1053.247559 [2+] (88)	2184.928 *1092.739868 [2+] (4)
G	18	2105.886 *1054.005127 [2+] (26) *1053.247559 [2+] (88)	2088.859 *1044.662354 [2+] (5)	1909.914 *955.859375 [2+] (3)	1811.928	2007.900 *1004.314209 [2+] (17)	2087.875 *1044.662354 [2+] (5)
A	17	2048.864 *1025.312988 [2+] (2)	2031.838	1852.893	1754.907	1950.878	2030.854
A	16	1977.827 989.6916504 [2+] (4)	1960.801 *980.5996094 [2+] (2)	1781.855	1683.870 842.0861816 [2+] (1)	1879.841 940.7459717 [2+] (3)	1959.817 *980.5996094 [2+] (2)
V	15	1906.790	1889.764	1710.818 *855.7409668 [2+] (1)	1612.832	1808.804 *904.6170654 [2+] (4)	1888.780
H	14	1807.722 *904.6170654 [2+] (4)	1790.695	1611.750	1513.764	1709.736 *855.7409668 [2+] (1)	1789.711
s	13	1670.663	1653.636	1474.691 *737.9445801 [2+] (9)	1376.705 *688.7616577 [2+] (3)	1572.677	1652.652
P	12	1503.664	1486.638	1307.693	-	1405.679 *703.715271 [2+] (5)	1485.654
L	11	1406.612 *703.715271 [2+] (5)	1389.585	1210.640	-	1308.626	1388.601 694.253418 [2+] (2)
s	10	1293.528	1276.501	1097.556	-	1195.542 598.2892456 [2+] (2)	1275.517
L	9	1126.529 563.5229492 [2+] (1) *564.3468628 [2+] (1)	1109.503	-	-	1028.543	1108.519 *1108.576416 (1)
G	8	1013.445 1013.670654 (5)	996.419	-	-	915.459 458.2911377 [2+] (1)	995.435 995.3485107 (2)
s	7	956.424 *955.859375 (3)	939.397	-	-	858.438 *858.4998779 (2)	938.413
P	6	789.425	772.399	-	-	-	771.415
R	5	692.373	675.346 *675.930603 (2)	-	-	-	674.362
P	4	536.272 *536.3874512 (5)	519.245	-	-	-	518.261
Y	3	439.219	422.192	-	-	-	421.208
E	2	276.155	259.129	-	-	-	258.145
K	1	147.113	130.086	-	-	-	129.102

## Ion distribution

Threshold	Ion count	Matches	% matched
0	161	79	49
0.5	115	65	56



1	93	55	59
2	65	39	60
3	47	25	53
4	34	17	50
5	27	11	40
10	14	4	28

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
257.096283	287.7537231445	3.85	b4 (-0.02)
458.2911377	131.6067657471	1.76	y8-98[2+] (0.05)
536.3874512	386.6726379395	5.18	b8* (0.14) : y4 (0.11)
556.3580322	119.834602356	1.60	
558.333374	104.1695175171	1.39	
561.2437744	109.7611846924	1.47	a13o[2+] (0.47) : a13*[2+] (-0.01)
563.5229492	106.8663253784	1.43	y9[2+] (-0.24)
564.3468628	144.5487823486	1.93	y9[2+] (0.57) : x4 (0.07)
576.4504395	110.5234909058	1.48	
589.4263306	111.0256576538	1.48	
590.3377686	88.9978713989	1.19	
592.9961548	103.1854934692	1.38	
598.2892456	168.2952575684	2.25	y10-98[2+] (0.01)
601.6085205	84.9559783936	1.13	
618.5253296	139.0649719238	1.86	b14-98[2+] (0.24)
637.0640869	161.523651123	2.16	
659.258606	186.915435791	2.50	b14*[2+] (0.50)
661.361084	284.676361084	3.81	x10[2+] (0.09)
670.197998	548.7405395508	7.35	
672.277771	177.3189697266	2.37	
675.930603	219.70703125	2.94	z5 (0.58) : y5* (0.58) : c14[2+] (0.14)
688.7616577	230.9617004395	3.09	b17-294[2+] (-0.08) : y13-294[2+] (-0.09)
694.253418	169.2367706299	2.26	y11o[2+] (-0.55)
702.6068115	3605.36328125	48.34	
703.715271	445.0864868164	5.96	b16-98[2+] (0.38) : y12-98[2+] (0.37) : y11[2+] (-0.09)
712.5438232	338.6770019531	4.54	
735.1524658	4166.8247070313	55.87	
735.755249	979.4053955078	13.13	
737.9445801	710.0560913086	9.52	b18-294[2+] (0.57) : b17-196[2+] (0.10) : y13-196[2+] (0.09) : a16[2+] (-0.38)
745.3480225	966.9727783203	12.96	
755.2486572	3841.9301757813	51.52	
761.2678223	695.8634033203	9.33	c16[2+] (0.43) : a10 (-0.13)
776.5325928	698.3044433594	9.36	

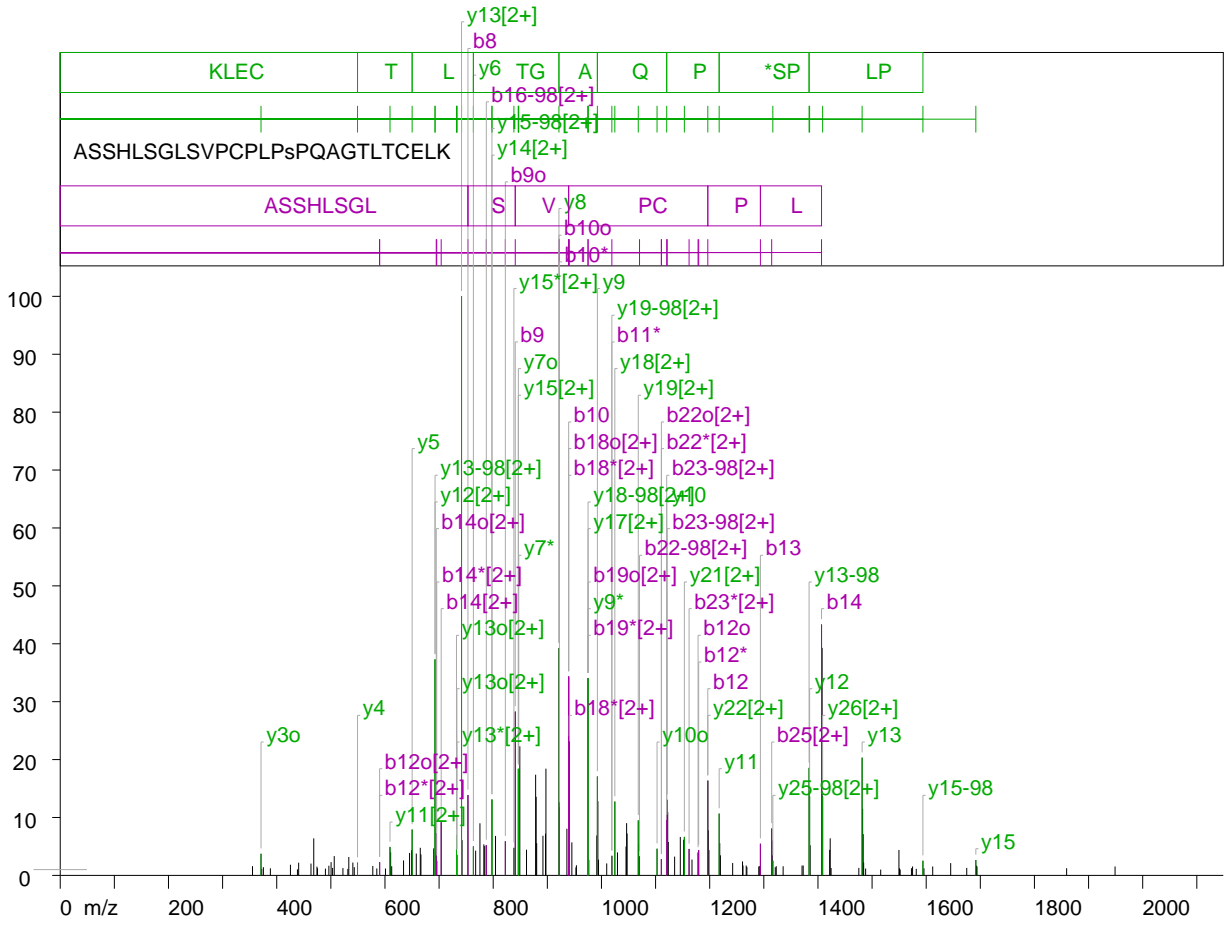
778.0611572	1027.6905517578,	13.78	
798.2313232	573.154296875,	7.68	
802.5161133	1080.5546875,	14.49	
803.3543701	618.7224731445,	8.29	
808.7316895	1184.779296875,	15.88	
809.9326172	507.5465698242,	6.80	
811.145752	947.5770263672,	12.70	
834.7575684	156.7604522705,	2.10	b18-98[2+] (-0.59)
839.2310791	97.3733978271,	1.30	
842.0861816	148.7412261963,	1.99	y16-294[2+] (-0.35)
854.0423584	107.2260284424,	1.43	
855.7409668	142.6942138672,	1.91	y14-98[2+] (0.36) : y15-196[2+] (-0.17)
858.4998779	167.3609313965,	2.24	b11-98 (0.08) : y7-98 (0.06)
864.927124	238.5420379639,	3.19	b19-196[2+] (0.51)
876.1865234	137.3438415527,	1.84	b18*[2+] (0.35)
879.4775391	126.4856643677,	1.69	
884.5483398	142.4734649658,	1.91	b18[2+] (0.19)
902.0592041	161.0364990234,	2.15	
904.6170654	335.507598877,	4.49	y14[2+] (0.25) : y15-98[2+] (-0.28)
910.0257568	203.7080383301,	2.73	a11o (-0.36)
913.2658691	245.678604126,	3.29	b20-196[2+] (0.32) : b19-98[2+] (-0.14)
914.2368164	231.0596923828,	3.09	
926.1896973	227.5413970947,	3.05	
940.7459717	245.0187072754,	3.28	y16-98[2+] (0.32)
954.699585	313.887512207,	4.20	y19-294[2+] (-0.29)
955.859375	224.2160339355,	3.00	y18-196[2+] (0.39) : b12-98 (0.39) : b11 (-0.53) : y7 (-0.56)
962.5772705	364.6381835938,	4.88	b19[2+] (0.17)
963.5245361	243.3815307617,	3.26	
964.4693604	253.4126586914,	3.39	
980.5996094	223.5427856445,	2.99	y16o[2+] (0.18) : y16*[2+] (-0.30) : z16[2+] (-0.30)
987.8280029	224.7767028809,	3.01	a20o[2+] (-0.09) : a20*[2+] (-0.58)
989.6916504	322.6462097168,	4.32	y16[2+] (0.27)
995.3485107	212.5473937988,	2.85	y8o (-0.08)
1004.314209	1303.9248046875,	17.48	y19-196[2+] (0.32) : y18-98[2+] (-0.13)
1005.12085	488.9776916504,	6.55	
1013.670654	411.0828552246,	5.51	y8 (0.22)
1020.233765	243.5054626465,	3.26	
1025.312988	178.2073669434,	2.38	y17[2+] (0.37) : a12 (-0.14)
1038.487915	121.7625427246,	1.63	x17[2+] (-0.44)
1043.813354	215.7219238281,	2.89	b21-98[2+] (0.34)
1044.662354	374.3668823242,	5.02	y18o[2+] (0.22) : y18*[2+] (-0.27) : z18[2+] (-0.27)
1053.247559	6627.9697265625,	88.88	y19-98[2+] (0.26) : y18[2+] (-0.19) : b12 (-0.20)
1054.005127	1995.7211914063,	26.76	y18[2+] (0.55) : b12 (0.55) : y22-294[2+] (-0.53)

1068.690186	84.6381607056 <sub>3</sub>	1.13	b13-98 (0.14)
1092.739868	317.7974243164 <sub>3</sub>	4.26	b21[2+] (0.28) : y19o[2+] (-0.22)
1093.608643	239.3896179199 <sub>3</sub>	3.21	y19*[2+] (0.14) : z19[2+] (0.14)
1102.118042	7456.8642578125 <sub>3</sub>	100	y19[2+] (0.14)
1102.917236	2084.8635253906 <sub>3</sub>	27.95	
1108.576416	134.908706665 <sub>3</sub>	1.80	b22-98[2+] (0.59) : y9o (0.05)
1117.206787	350.4529724121 <sub>3</sub>	4.69	y21-98[2+] (0.19)
1127.605591	217.1862640381 <sub>3</sub>	2.91	
1130.627686	83.7929916382 <sub>3</sub>	1.12	
1137.460327	154.9500732422 <sub>3</sub>	2.07	y20[2+] (-0.03) : b14-196 (-0.10)
1156.828857	130.2043457031 <sub>3</sub>	1.74	b22[2+] (-0.15) : y21o[2+] (-0.16)
1157.822144	129.5539550781 <sub>3</sub>	1.73	y21*[2+] (0.33) : z21[2+] (0.33)
1166.178589	665.3137207031 <sub>3</sub>	8.92	y21[2+] (0.17) : b13 (-0.35)
1166.994141	173.7087097168 <sub>3</sub>	2.32	b13 (0.45)
1178.430054	147.1427459717 <sub>3</sub>	1.97	
1179.447998	86.9492950439 <sub>3</sub>	1.16	x21[2+] (-0.55)
1316.391724	96.6935195923 <sub>3</sub>	1.29	b14* (-0.11)

S687

# ProPhosSI MS/MS report

Mass: 963.134094238281 Charge: 3+



## Cav3.2 Rat

(57) 672 ASSHLSGLSVPCLPsPQAGTLTCELK 698 2886.365 (0.0130) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
16	(687)	Phospho (ST)	y11 => y13-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b14 to b16-98, transition y11 to y13-98 support unique phosphorylation at position 16  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y8 to y11.
Five of six sequential ions present	1/1	Five of Six ions found between b8 and b13 Five of Six ions found between b9 and b14 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y8 and y13
Proline directed fragmentation pattern	7/7	No proline ions at y17-98 PASS: b11< b10  PASS: y15-98> y14-98  PASS: b13< b12 with ratio 2.99  PASS: y13-98> y12-98  PASS: b15< b14  NOTE: S-P is a low abundance fragmentation. PASS: y11> y10 with ratio 1.11  PASS: b17-98< b16-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 741.5036621: intensity: 25089.677734375) assigned 1 times ion 2 (mass: 1406.601563: intensity: 10870.2734375) assigned 1 times ion 3 (mass: 1407.643677: intensity: 9857.33984375) assigned 0 times ion 4 (mass: 921.4284668: intensity: 9848.5908203125) assigned 2 times ion 5 (mass: 692.5415039: intensity: 9357.9677734375) assigned 2 times ion 6 (mass: 939.4015503: intensity: 8616.736328125) assigned 3 times ion 7 (mass: 975.2177734: intensity: 8539.875) assigned 6 times ion 8 (mass: 840.7432861: intensity: 7099.9750976563) assigned 1 times ion 9 (mass: 940.4034424: intensity: 5802.3076171875) assigned 2 times ion 10 (mass: 849.1466675: intensity: 5595.328125) assigned 0 times

## Ion Table

60 ions assigned of 115 ions above threshold (52%).

## N-terminal ions

AA	N-ion	b	b*	b-98	bo
A	1	72.044	55.018	-	54.034
S	2	159.076	142.050	-	141.066
S	3	246.109	229.082	-	228.098
H	4	383.167	366.141	-	365.157
L	5	496.251	479.225	-	478.241
S	6	583.284	566.257	-	565.273
G	7	640.305	623.278	-	622.294
L	8	753.389 753.328064 (13)	736.363	-	735.378
S	9	840.421 840.7432861 (28)	823.395	-	822.411 *822.4033813 (5)
V	10	939.490 *939.4015503 (34)	922.463 922.348877 (11)	-	921.479 *921.4284668 (39)
P	11	1036.542	1019.516 *1019.215759 (3)	-	1018.532
C	12	1196.573 *1196.509644 (16)	1179.546 *590.0717773 [2+] (2) 1179.635254 (4)	-	1178.562 *590.0717773 [2+] (2) *1178.488525 (3)
P	13	1293.626 1293.669067 (5)	1276.599	-	1275.615
L	14	1406.710 1406.601563 (43) 703.8800659 [2+] (9)	1389.683 695.6395874 [2+] (2)	-	1388.699 694.7428589 [2+] (7)
P	15	1503.763	1486.736	-	1485.752
s	16	1670.761	1653.734	1572.775 787.2630005 [2+] (5)	1652.750
P	17	1767.814	1750.787	1669.828	1749.803
Q	18	1895.872	1878.846 *939.4015503 [2+] (34) *940.4034424 [2+] (23)	1797.886	1877.862 *939.4015503 [2+] (34)
A	19	1966.909	1949.883 *975.2177734 [2+] (34)	1868.923	1948.899 *975.2177734 [2+] (34)
G	20	2023.931	2006.904	1925.945	2005.920
T	21	2124.978	2107.952	2026.993	2106.968
L	22	2238.063	2221.036 *1110.759888 [2+] (2)	2140.077 1070.31189 [2+] (3)	2220.052 *1110.759888 [2+] (2)
T	23	2339.110	2322.084 1161.871582 [2+] (4)	2241.124 1121.438477 [2+] (13) *1120.538696 [2+] (9)	2321.100
C	24	2499.141	2482.114	2401.155	2481.130
E	25	2628.183 1314.541016 [2+] (8)	2611.157	2530.198	2610.173
L	26	2741.268	2724.241	2643.282	2723.257
K	27	-	-	-	-

## C-terminal ions

AA	C-ion	y	y*	y-98	yo
A	27	-	-	-	-
S	26	2816.336 1408.624268 [2+] (13)	2799.309	2718.350	2798.325
S	25	2729.304	2712.277	2631.318 1316.619995 [2+] (2)	2711.293
H	24	2642.272	2625.245	2544.286	2624.261

L	23	2505.213	2488.186	2407.227	2487.202
S	22	2392.129 *1196.509644 [2+] (16)	2375.102	2294.143	2374.118
G	21	2305.097 1153.188965 [2+] (6)	2288.070	2207.111	2287.086
L	20	2248.075	2231.049	2150.090	2230.065
S	19	2134.991 1067.996948 [2+] (9)	2117.965	2037.005 *1019.215759 [2+] (3)	2116.981
V	18	2047.959 1024.681396 [2+] (12)	2030.933	1949.973 *975.2177734 [2+] (34)	2029.949
P	17	1948.891 *975.2177734 [2+] (34)	1931.864	1850.905	1930.880
C	16	1851.838	1834.812	1753.852	1833.828
P	15	1691.807 1691.734253 (2) *846.4263306 [2+] (18)	1674.781 *838.201416 [2+] (4)	1593.822 1593.958252 (2) *797.6380615 [2+] (13)	1673.797
L	14	1594.755 *797.6380615 [2+] (13)	1577.728	1496.769	1576.744
P	13	1481.671 741.5036621 [2+] (100) 1481.619263 (20)	1464.644 *732.8942261 [2+] (3)	1383.685 1383.584351 (18) *692.5415039 [2+] (37)	1463.660 *732.8942261 [2+] (3) 732.1749878 [2+] (6)
s	12	1384.618 1384.587402 (13) *692.5415039 [2+] (37)	1367.591	1286.632	1366.607
P	11	1217.620 609.2869263 [2+] (4) 1217.496582 (10)	1200.593	-	1199.609
Q	10	1120.567 *1120.538696 (9)	1103.540	-	1102.556 1102.714844 (4)
A	9	992.508 *992.4747314 (17)	975.482 *975.2177734 (34)	-	974.498
G	8	921.471 *921.4284668 (39)	904.445	-	903.461
T	7	864.450	847.423 *847.1710205 (18)	-	846.439 *846.4263306 (18)
L	6	763.402 763.3447266 (5)	746.375	-	745.391
T	5	650.318 650.2250366 (7)	633.291	-	632.307
C	4	549.270 549.2905273 (2)	532.244	-	531.260
E	3	389.240	372.213	-	371.229 371.0009766 (3)
L	2	260.197	243.170	-	242.186
K	1	147.113	130.086	-	129.102

## Ion distribution

Threshold	Ion count	Matches	% matched
0	200	87	43
0.5	182	83	45
1	160	80	50
2	115	60	52
3	95	52	54
4	82	46	56
5	66	39	59



10	30	22	73
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### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
355.2861633	399.8542175293	1.59	a8 <sup>[2+]</sup> (0.59) : a4 (0.11)
371.0009766	936.7691040039	3.73	y3o (-0.22)
372.3619385	286.1769714355	1.14	y3* (0.14) : z3 (0.14)
375.3937988	354.8129882813	1.41	
388.2700195	306.0249938965	1.21	
425.3571167	461.7273864746	1.84	
438.3222046	262.5915527344	1.04	
440.4999084	549.0764160156	2.18	
463.2833252	512.7630615234	2.04	
468.3936157	1604.7144775391	6.39	a5 (0.13)
474.3514709	380.6453857422	1.51	
475.339386	309.3194580078	1.23	x8 <sup>[2+]</sup> (0.10)
490.0163574	294.939239502	1.17	
496.3545532	419.3851928711	1.67	a11o <sup>[2+]</sup> (0.58) : b5 (0.10) : a11 <sup>[2+]</sup> (0.08) : y9 <sup>[2+]</sup> (-0.40)
500.4397583	574.8174438477	2.29	
503.2239685	325.4585571289	1.29	
506.2834473	836.3876953125	3.33	
522.3394775	316.1452026367	1.26	
531.4091187	281.6301269531	1.12	y4o (0.14)
533.190918	798.5045166016	3.18	
540.6393433	556.3157958984	2.21	
543.2839355	356.690246582	1.42	
549.2905273	551.766418457	2.19	y4 (0.01)
577.5448608	409.6776733398	1.63	x4 (0.27)
584.9105835	300.47265625	1.19	a12 <sup>[2+]</sup> (0.11)
590.0717773	574.160949707	2.28	b12o <sup>[2+]</sup> (0.28) : b12 <sup>[2+]</sup> (-0.20)
600.9474487	299.879699707	1.19	y11 <sup>[2+]</sup> (0.14) : z11 <sup>[2+]</sup> (0.14)
609.2869263	1233.689453125	4.91	y11 <sup>[2+]</sup> (-0.02)
610.4962769	1006.4254150391	4.01	
612.477478	397.3999328613	1.58	a7 (0.16)
634.3221436	650.0542602539	2.59	
645.4384155	974.1251220703	3.88	
649.1875	1092.3911132813	4.35	
650.2250366	1989.6561279297	7.93	y5 (-0.09)
657.8629761	945.9658813477	3.77	c7 (0.53)
665.2539673	1195.7806396484	4.76	
666.4276123	908.8149414063	3.62	
690.0670166	1172.3785400391	4.67	a14 <sup>[2+]</sup> (0.20)

692.5415039	9357.9677734375 <sub>3</sub>	37.29	y13-98[2+] (0.19) : y12[2+] (-0.27)
693.461731	1046.021484375 <sub>3</sub>	4.16	
694.7428589	1834.162109375 <sub>3</sub>	7.31	b14o[2+] (-0.11)
695.6395874	628.8420410156 <sub>3</sub>	2.50	b14*[2+] (0.29)
703.8800659	2304.796875 <sub>3</sub>	9.18	b14[2+] (0.02)
732.1749878	1754.8182373047 <sub>3</sub>	6.99	y13o[2+] (-0.15)
732.8942261	891.7216186523 <sub>3</sub>	3.55	y13o[2+] (0.56) : y13*[2+] (0.06) : z13[2+] (0.06)
741.5036621	25089.677734375 <sub>3</sub>	100	y13[2+] (0.16)
742.4390869	1527.177734375 <sub>3</sub>	6.08	
753.328064	3483.587890625 <sub>3</sub>	13.88	b8 (-0.06)
763.3447266	1257.1889648438 <sub>3</sub>	5.01	y6 (-0.05)
767.5731812	1071.4608154297 <sub>3</sub>	4.27	
775.5047607	2258.09765625 <sub>3</sub>	9.00	
782.6583252	1344.7291259766 <sub>3</sub>	5.35	
784.284729	1272.3876953125 <sub>3</sub>	5.07	
787.2630005	1316.7901611328 <sub>3</sub>	5.24	b16-98[2+] (0.37)
797.6380615	3288.3610839844 <sub>3</sub>	13.10	y15-98[2+] (0.22) : y14[2+] (-0.24)
804.2877197	1710.3864746094 <sub>3</sub>	6.81	
822.4033813	1479.87109375 <sub>3</sub>	5.89	a16[2+] (0.51) : b9o (-0.00)
838.201416	1194.6385498047 <sub>3</sub>	4.76	y15*[2+] (0.30) : z15[2+] (0.30)
840.7432861	7099.9750976563 <sub>3</sub>	28.29	b9 (0.32)
846.4263306	4619.2368164063 <sub>3</sub>	18.41	y15[2+] (0.01) : y7o (-0.01)
847.1710205	4551.908203125 <sub>3</sub>	18.14	z7 (-0.25) : y7* (-0.25)
849.1466675	5595.328125 <sub>3</sub>	22.30	
861.5380859	1113.4254150391 <sub>3</sub>	4.43	a17o[2+] (0.12) : a17*[2+] (-0.36)
878.357605	4362.6611328125 <sub>3</sub>	17.38	
879.2957764	3404.7160644531 <sub>3</sub>	13.57	
880.3049316	1396.2163085938 <sub>3</sub>	5.56	
891.9003296	1718.1280517578 <sub>3</sub>	6.84	x7 (-0.54)
896.642334	1807.5494384766 <sub>3</sub>	7.20	
897.4100342	4625.1884765625 <sub>3</sub>	18.43	
921.4284668	9848.5908203125 <sub>3</sub>	39.25	y8 (-0.04) : b10o (-0.05)
922.348877	2936.4582519531 <sub>3</sub>	11.70	b10* (-0.11)
936.1256104	2021.8818359375 <sub>3</sub>	8.05	
939.4015503	8616.736328125 <sub>3</sub>	34.34	b18o[2+] (-0.03) : b10 (-0.08) : b18*[2+] (-0.52)
940.4034424	5802.3076171875 <sub>3</sub>	23.12	b18*[2+] (0.47) : x16[2+] (-0.01)
945.3265381	1430.4227294922 <sub>3</sub>	5.70	
952.8249512	346.9094543457 <sub>3</sub>	1.38	
953.7516479	439.8362121582 <sub>3</sub>	1.75	
975.2177734	8539.875 <sub>3</sub>	34.03	y17[2+] (0.26) : b19o[2+] (0.26) : b19*[2+] (-0.22) : y9* (-0.26) : z9 (-0.26) : y18-98[2+] (-0.27)
976.6245117	677.0791625977 <sub>3</sub>	2.69	
991.3877563	1730.0743408203 <sub>3</sub>	6.89	a11* (-0.13)

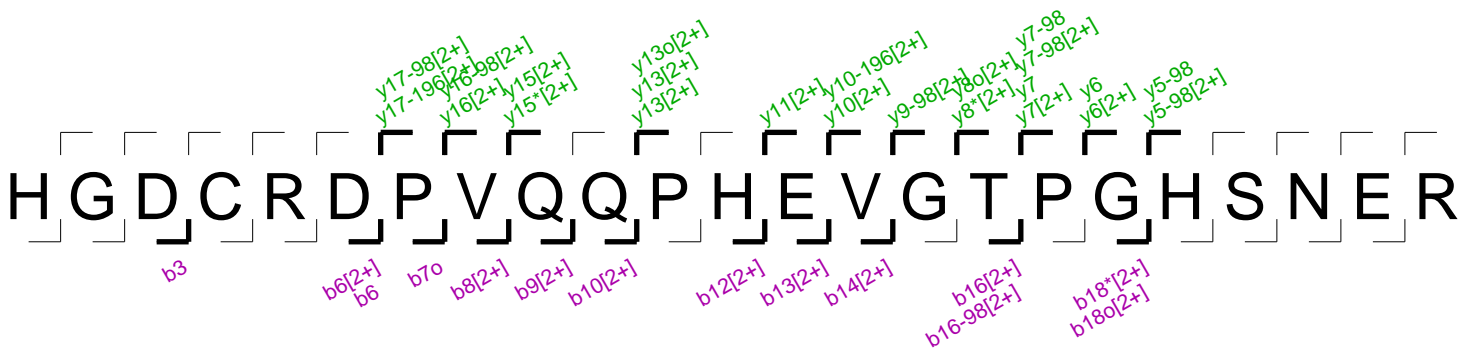
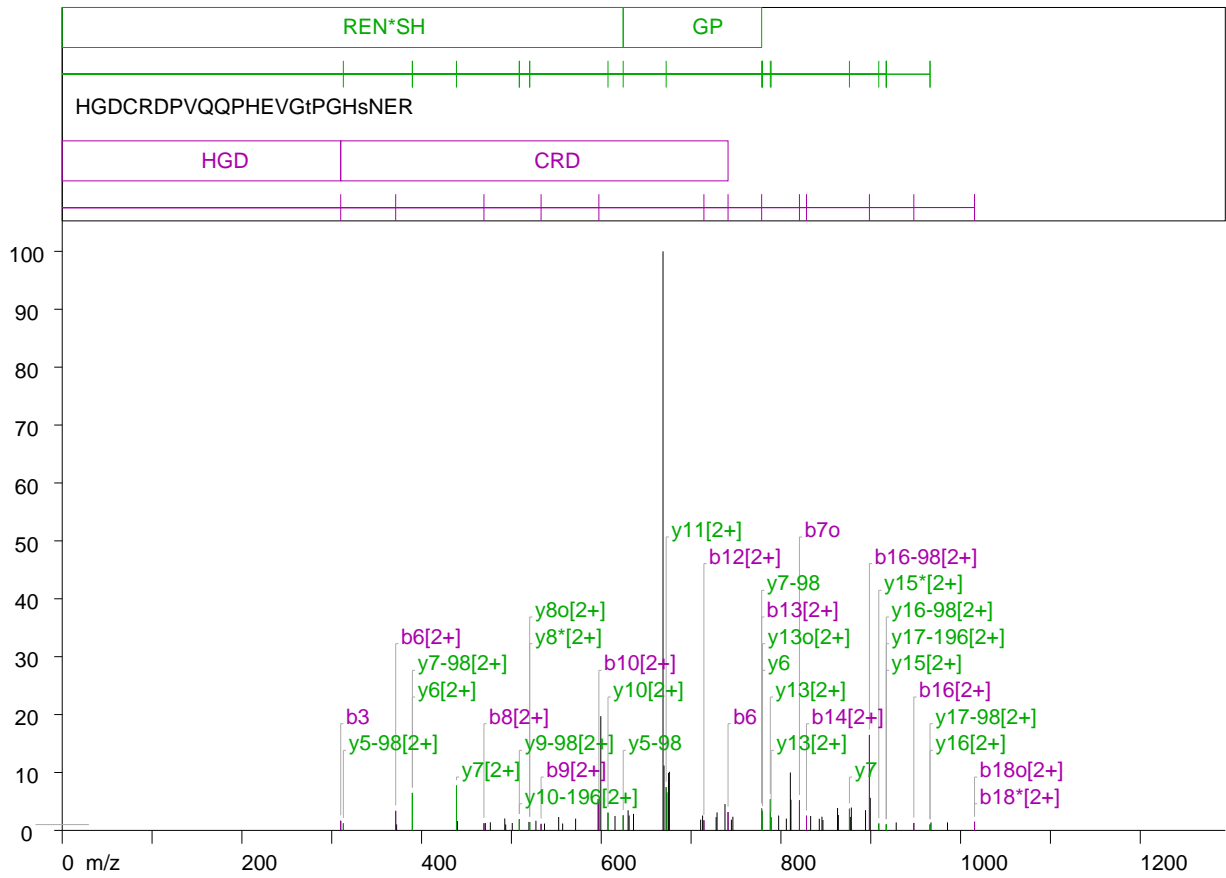
992.4747314	4284.4765625	17.07	c19[2+] (0.00) : y9 (-0.03)
993.3944702	3214.6674804688	12.81	
994.5930786	681.4884033203	2.71	
1009.701233	518.9915161133	2.06	
1019.215759	847.6633911133	3.37	y19-98[2+] (0.20) : b11* (-0.30)
1024.681396	3200.5183105469	12.75	y18[2+] (0.19)
1029.596191	996.9678955078	3.97	
1045.394409	1250.4298095703	4.98	
1046.462036	2263.5163574219	9.02	
1047.355225	1816.556640625	7.24	
1067.996948	2383.8962402344	9.50	y19[2+] (-0.00)
1068.790283	1348.3713378906	5.37	
1070.31189	819.8553466797	3.26	b22-98[2+] (-0.23)
1102.714844	1156.2346191406	4.60	y10o (0.15)
1110.759888	701.0042114258	2.79	b22o[2+] (0.22) : b22*[2+] (-0.26)
1120.538696	2401.9367675781	9.57	y10 (-0.02) : b23-98[2+] (-0.52)
1121.438477	3275.2507324219	13.05	b23-98[2+] (0.37)
1122.404175	2742.5295410156	10.93	
1123.46936	1449.2209472656	5.77	
1135.164795	814.2357788086	3.24	
1145.702881	1664.8433837891	6.63	
1151.939209	1545.0339355469	6.15	a12* (0.38)
1153.188965	1669.4652099609	6.65	y21[2+] (0.13)
1161.871582	1146.7966308594	4.57	b23*[2+] (0.32)
1167.264404	685.2156982422	2.73	x21[2+] (0.21)
1178.488525	989.1819458008	3.94	b12o (-0.07) : c23[2+] (-0.08)
1179.635254	1097.7213134766	4.37	b12* (0.08)
1196.509644	4105.208984375	16.36	y22[2+] (-0.05) : b12 (-0.06)
1197.641235	1954.5817871094	7.79	
1198.581543	1097.5690917969	4.37	
1217.496582	2677.6801757813	10.67	y11 (-0.12)
1218.568481	1399.4020996094	5.57	
1219.737915	869.6668701172	3.46	
1242.422363	538.1712036133	2.14	
1260.645264	605.3640136719	2.41	
1261.497192	429.5872192383	1.71	
1267.432373	428.947479248	1.70	x23[2+] (0.32)
1268.677124	365.2393798828	1.45	
1290.6604	387.5652770996	1.54	
1292.511841	404.6200256348	1.61	a25*[2+] (0.42)
1293.669067	1372.8569335938	5.47	b13 (0.04)
1314.541016	2031.4217529297	8.09	b25[2+] (-0.05)
1315.471069	1513.2854003906	6.03	

1316.619995	636.854309082,	2.53	y25-98[2+] (0.45)
1321.138062	353.48828125,	1.40	y24[2+] (-0.50)
1322.919678	398.1702270508,	1.58	c25[2+] (-0.18)
1335.64563	395.2705688477,	1.57	x24[2+] (0.00)
1370.599365	425.887878418,	1.69	b26[2+] (-0.53)
1372.697021	427.7807006836,	1.70	
1383.584351	4659.4555664063,	18.57	y13-98 (-0.10)
1384.587402	3427.6328125,	13.66	y12 (-0.03)
1385.598145	1305.1319580078,	5.20	
1406.601563	10870.2734375,	43.32	b14 (-0.10)
1407.643677	9857.33984375,	39.28	
1408.624268	3419.6982421875,	13.62	y26[2+] (-0.04)
1421.628906	1109.4801025391,	4.42	
1422.646362	1606.3610839844,	6.40	x26[2+] (-0.02)
1424.246216	319.2674865723,	1.27	c14 (0.50)
1475.518799	326.4415588379,	1.30	a15 (-0.24)
1481.619263	5102.0166015625,	20.33	y13 (-0.05)
1482.549316	2887.3845214844,	11.50	
1483.477051	1788.4974365234,	7.12	
1484.423462	554.6848144531,	2.21	
1488.085571	297.3325805664,	1.18	
1549.621094	1100.76953125,	4.38	
1550.622681	309.6314697266,	1.23	
1551.919922	256.2603759766,	1.02	
1572.764404	311.6723022461,	1.24	b16-98 (-0.01)
1574.820313	387.0,	1.54	
1581.637939	284.8191833496,	1.13	
1593.958252	636.0662841797,	2.53	y15-98 (0.13)
1595.864868	306.8975524902,	1.22	
1612.03125	387.5637817383,	1.54	
1645.226929	531.4722290039,	2.11	
1674.904419	325.5895385742,	1.29	y15* (0.12) : z15 (0.12)
1691.734253	668.237487793,	2.66	y15 (-0.07)
1692.831421	422.2815246582,	1.68	
1693.858643	387.9290771484,	1.54	
1859.48584	309.962890625,	1.23	
1948.954468	387.6423034668,	1.54	y17 (0.06) : b19o (0.05)

T751 and  
S755 (diP)

# ProPhosSI MS/MS report

Mass: 693.283447265625 Charge: 4+



## Cav3.2 Rat

(19) 736 HGDCRDPVQQPHEVGtPGHsNER 758 2768.091 (1.0112) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
16	(751)	Phospho (ST)	
20	(755)	Phospho (ST)	

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 2 phosphate ions were not found
Three -98 Ions present	1/1	5 des-phospho fragment ions were found.
Unique -98 transitions present	1/2	transition b14 to b16-98, transition y7-98 to y10-196 support unique phosphorylation at position 16  No transitions found to support unique phosphorylation at position 20  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	1/1	Five of Six ions found between b8 and b13 Five of Six ions found between b9 and b14
Proline directed fragmentation pattern	5/5	PASS: y17-196> y16-196  PASS: b7< b6  No proline ions at y13-196 PASS: b11< b10  PASS: y7-98> y6-98  PASS: b17-98< b16-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	4/6	ion 1 (mass: 668.7630615: intensity: 4155.1557617188) assigned 0 times ion 2 (mass: 599.4907227: intensity: 819.8093261719) assigned 0 times ion 3 (mass: 898.4990234: intensity: 685.0337524414) assigned 1 times ion 4 (mass: 669.8388672: intensity: 465.5452270508) assigned 0 times ion 5 (mass: 675.8300781: intensity: 420.7253723145) assigned 0 times ion 6 (mass: 810.5057373: intensity: 415.5160522461) assigned 1 times ion 7 (mass: 674.946228: intensity: 412.3739624023) assigned 0 times ion 8 (mass: 438.8425293: intensity: 321.6818847656) assigned 1 times ion 9 (mass: 672.2565308: intensity: 310.2415161133) assigned 1 times ion 10 (mass: 673.0878906: intensity: 273.4163818359) assigned 0 times

### Ion Table

34 ions assigned of 76 ions above threshold (44%).

## N-terminal ions

AA	N-ion	b	b*	b-196	b-98	bo
H	1	138.066	121.040	-	-	120.056
G	2	195.088	178.061	-	-	177.077
D	3	310.115 309.9831238 (1)	293.088	-	-	292.104
C	4	470.145	453.119	-	-	452.135
R	5	626.246	609.220	-	-	608.236
D	6	741.273 371.1850586 [2+] (3) 741.1430664 (3)	724.247	-	-	723.263
P	7	838.326	821.300	-	-	820.316 820.6340332 (5)
V	8	937.395 469.4363708 [2+] (1)	920.368	-	-	919.384
Q	9	1065.453 533.0302734 [2+] (1)	1048.427	-	-	1047.443
Q	10	1193.512 597.3527832 [2+] (4)	1176.485	-	-	1175.501
P	11	1290.564	1273.538	-	-	1272.554
H	12	1427.623 714.2896729 [2+] (1)	1410.597	-	-	1409.613
E	13	1556.666 *778.5727539 [2+] (3)	1539.639	-	-	1538.655
V	14	1655.734 828.4735107 [2+] (2)	1638.708	-	-	1637.724
G	15	1712.756	1695.729	-	-	1694.745
t	16	1893.770 947.9360352 [2+] (1)	1876.743	-	1795.784 898.4990234 [2+] (16)	1875.759
P	17	1990.823	1973.796	-	1892.837	1972.812
G	18	2047.844	2030.818 *1015.52124 [2+] (1)	-	1949.858	2029.834 *1015.52124 [2+] (1)
H	19	2184.903	2167.876	-	2086.917	2166.892
s	20	2351.901	2334.875	2155.930	2253.915	2333.891
N	21	2465.944	2448.918	2269.972	2367.958	2447.934
E	22	2594.987	2577.960	2399.015	2497.001	2576.976
R	23	-	-	-	-	-

## C-terminal ions

AA	C-ion	y	y*	y-196	y-98	yo
H	23	-	-	-	-	-
G	22	2632.040	2615.013	2436.068	2534.054	2614.029
D	21	2575.018	2557.992	2379.046	2477.032	2557.008
C	20	2459.991	2442.965	2264.019	2362.005	2441.981
R	19	2299.961	2282.934	2103.989	2201.975	2281.950
D	18	2143.859	2126.833	1947.888	2045.874	2125.849
P	17	2028.833	2011.806	1832.861 *917.3342285 [2+] (1)	1930.847 *965.9801025 [2+] (1)	2010.822
V	16	1931.780 *965.9801025 [2+] (1)	1914.753	1735.808	1833.794 *917.3342285 [2+] (1)	1913.769
Q	15	1832.711 *917.3342285 [2+] (1)	1815.685 *908.9208984 [2+] (1)	1636.740	1734.725	1814.701



-	-	(1)	(1)	-	-	-
Q	14	1704.653	1687.626	1508.681	1606.667	1686.642
P	13	1576.594 789.074585 [2+] (2) 788.2208252 [2+] (5)	1559.568	1380.622	1478.608	1558.584 *779.5186768 [2+] (3)
H	12	1479.541	1462.515	1283.570	1381.555	1461.531
E	11	1342.482 672.2565308 [2+] (7)	1325.456	1146.511	1244.497	1324.472
V	10	1213.440 607.5219727 [2+] (3)	1196.413	1017.468 *508.8305969 [2+] (1)	1115.454	1195.429
G	9	1114.371	1097.345	918.400	1016.386 *508.8305969 [2+] (1)	1096.361
t	8	1057.350	1040.323 *520.3566895 [2+] (1)	861.378	959.364	1039.339 *520.3566895 [2+] (1)
P	7	876.336 438.8425293 [2+] (7) 876.2609863 (3)	859.309	-	778.350 *389.7758179 [2+] (6) *778.5727539 (3)	858.325
G	6	779.283 *389.7758179 [2+] (6) *779.5186768 (3)	762.257	-	681.297	761.273
H	5	722.262	705.235	-	624.276 312.9263306 [2+] (1) 624.4439697 (2)	704.251
s	4	585.203	568.176	-	487.217	567.192
N	3	418.205	401.178	-	-	400.194
E	2	304.162	287.135	-	-	286.151
R	1	175.119	158.092	-	-	157.108

## Ion distribution

Threshold	Ion count	Matches	% matched
0	128	58	45
0.5	98	48	48
1	76	34	44
2	47	20	42
3	29	14	48
4	18	8	44
5	16	7	43
10	5	1	20

## Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
309.9831238	69.4563598633,	1.67	b3 (-0.13)
312.9263306	50.5426673889,	1.21	y5-98[2+] (0.28)
371.1850586	140.3555145264,	3.37	b6[2+] (0.04)
372.2175293	42.8466644287,	1.03	

389.7758179	269.0838928223,	6.47	y7-98[2+] (0.09) : y6[2+] (-0.36)
438.8425293	321.6818847656,	7.74	y7[2+] (0.17)
439.939209	66.6861572266,	1.60	
469.4363708	51.3587112427,	1.23	b8[2+] (0.23)
470.9847412	52.7133369446,	1.26	
476.5460815	58.3299064636,	1.40	
492.6200256	85.4259185791,	2.05	
493.65802	42.7322044373,	1.02	
500.9525146	53.071685791,	1.27	
508.8305969	79.768913269,	1.91	y9-98[2+] (0.13) : y10-196[2+] (-0.40)
519.5135498	60.8690948486,	1.46	a9[2+] (0.28)
520.3566895	60.0385055542,	1.44	y8o[2+] (0.18) : y8*[2+] (-0.30) : z8[2+] (-0.30)
527.2824097	69.0523147583,	1.66	
533.0302734	46.9843444824,	1.13	b9[2+] (-0.20)
536.836731	48.9677314758,	1.17	
552.6207275	95.9638519287,	2.30	
557.0321045	49.5355987549,	1.19	
571.4836426	84.1955871582,	2.02	x9[2+] (-0.20)
596.4904785	225.4528503418,	5.42	
597.3527832	205.8546142578,	4.95	b10[2+] (0.09)
599.4907227	819.8093261719,	19.72	
607.5219727	127.357460022,	3.06	y10[2+] (0.29)
615.3198242	103.3620986938,	2.48	
624.4439697	108.1364440918,	2.60	y5-98 (0.16)
629.8970947	144.3395843506,	3.47	
631.0152588	107.2310943604,	2.58	
635.9099731	118.78175354,	2.85	
668.7630615	4155.1557617188,	100	
669.8388672	465.5452270508,	11.20	
672.2565308	310.2415161133,	7.46	y11[2+] (0.51)
673.0878906	273.4163818359,	6.58	
674.946228	412.3739624023,	9.92	
675.8300781	420.7253723145,	10.12	
710.6611328	77.2244338989,	1.85	
712.8208008	106.8268051147,	2.57	a6 (-0.45)
714.2896729	72.7416610718,	1.75	b12[2+] (-0.02)
727.8768311	95.263458252,	2.29	
728.9116211	129.1722412109,	3.10	
737.7255859	189.1473999023,	4.55	
741.1430664	131.5450439453,	3.16	b6 (-0.13)
744.8671875	76.7989425659,	1.84	
746.5366211	98.2234954834,	2.36	
778.5727539	156.2082366943,	3.75	y7-98 (0.22) : b13[2+] (-0.26)

779.5186768	136.8725738525 <sub>3</sub>	3.29	y6 (0.23) : y13o[2+] (-0.27)
788.2208252	223.2155761719 <sub>3</sub>	5.37	y13[2+] (-0.58)
789.074585	94.1781311035 <sub>3</sub>	2.26	y13[2+] (0.27)
797.4675293	106.5665664673 <sub>3</sub>	2.56	
806.0413818	84.8803634644 <sub>3</sub>	2.04	a14*[2+] (0.18)
810.5057373	415.5160522461 <sub>3</sub>	10.00	a7 (0.17)
811.137207	219.9296722412 <sub>3</sub>	5.29	
820.6340332	215.837020874 <sub>3</sub>	5.19	b7o (0.31)
828.4735107	105.4101409912 <sub>3</sub>	2.53	b14[2+] (0.10)
833.1070557	103.4379577637 <sub>3</sub>	2.48	
842.720459	83.1171722412 <sub>3</sub>	2.00	a15[2+] (-0.16)
845.692749	98.1510467529 <sub>3</sub>	2.36	
846.7583008	74.4253845215 <sub>3</sub>	1.79	
863.0344238	160.5730438232 <sub>3</sub>	3.86	
863.9208984	110.7651138306 <sub>3</sub>	2.66	
876.2609863	155.5384063721 <sub>3</sub>	3.74	y7 (-0.07)
877.2878418	96.4859161377 <sub>3</sub>	2.32	
878.3717041	163.8325042725 <sub>3</sub>	3.94	
894.1898193	145.2952270508 <sub>3</sub>	3.49	
898.4990234	685.0337524414 <sub>3</sub>	16.48	b16-98[2+] (0.10)
899.4471436	233.7209777832 <sub>3</sub>	5.62	
908.9208984	49.6068878174 <sub>3</sub>	1.19	y15*[2+] (0.57) : z15[2+] (0.57) : a8 (-0.47)
917.3342285	42.8846969604 <sub>3</sub>	1.03	y15[2+] (0.47) : y17-196[2+] (0.39) : y16-98[2+] (-0.06)
928.3449707	57.3900756836 <sub>3</sub>	1.38	
947.9360352	53.4932022095 <sub>3</sub>	1.28	b16[2+] (0.54)
965.9801025	42.1849517822 <sub>3</sub>	1.01	y17-98[2+] (0.05) : y16[2+] (-0.41)
967.0377197	57.5638427734 <sub>3</sub>	1.38	
985.4520264	57.4435691833 <sub>3</sub>	1.38	
1015.52124	61.6691894531 <sub>3</sub>	1.48	b18o[2+] (0.10) : b18*[2+] (-0.39)

T751



## Cav3.2 Rat

(40) 736 HGDCRDPVQQPHEVGtPGHSNER 758 2688.124 (-0.0012) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
16	(751)	Phospho (ST)	b15 => b16-98[2+]

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	9 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b15 to b16-98, transition y7 to y10-98 support unique phosphorylation at position 16  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b12 to b15.
Five of six sequential ions present	1/1	Five of Six ions found between b9 and b14 Five of Six ions found between b10 and b15 Five of Six ions found between b11 and b16 Five of Six ions found between b12 and b17 Five of Six ions found between b13 and b18
Proline directed fragmentation pattern	6/6	PASS: y17-98> y16-98  PASS: b7< b6  PASS: y13-98> y12-98  PASS: b11< b10  PASS: y7> y6  PASS: b17-98< b16-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 883.499: intensity: 1145.12) assigned 0 times ion 2 (mass: 796.290: intensity: 1121.90) assigned 1 times ion 3 (mass: 741.158: intensity: 910.92) assigned 1 times ion 4 (mass: 1656.173: intensity: 673.28) assigned 1 times ion 5 (mass: 828.590: intensity: 673.28) assigned 1 times ion 6 (mass: 925.923: intensity: 669.60) assigned 2 times ion 7 (mass: 1852.111: intensity: 573.51) assigned 1 times ion 8 (mass: 926.559: intensity: 573.51) assigned 1 times ion 9 (mass: 975.233: intensity: 497.10) assigned 2 times ion 10 (mass: 1593.719: intensity: 446.22) assigned 0 times

### Ion Table

48 ions assigned of 98 ions above threshold (48%).

#### N-terminal ions

AA	N-ion	b	b*	b-98	bo
H	1	138.066	121.040	-	120.056
G	2	195.088	178.061	-	177.077

D	3	310.115 309.931 (6)	293.088	-	292.104 292.031 (6)
C	4	470.145	453.119 453.291 (2)	-	452.135
R	5	626.246 626.249 (5)	609.220	-	608.236
D	6	741.273 741.158 (79)	724.247	-	723.263
P	7	838.326	821.300	-	820.316
V	8	937.395	920.368	-	919.384
Q	9	1065.453 1065.525 (7) *533.248 [2+] (5)	1048.427	-	1047.443
Q	10	1193.512 *1193.393 (17) 597.497 [2+] (18)	1176.485	-	1175.501 1175.460 (5)
P	11	1290.564	1273.538	-	1272.554
H	12	1427.623 *714.462 [2+] (13) *1427.916 (13)	1410.597	-	1409.613
E	13	1556.666 1556.513 (22) *779.436 [2+] (28)	1539.639	-	1538.655 1538.991 (13)
V	14	1655.734 1656.173 (58) 828.590 [2+] (58)	1638.708	-	1637.724
G	15	1712.756 1713.179 (7)	1695.729	-	1694.745
t	16	1893.770 1893.460 (7)	1876.743	1795.784 898.598 [2+] (24)	1875.759
P	17	1990.823	1973.796	1892.837	1972.812
G	18	2047.844	2030.818	1949.858 *975.233 [2+] (43)	2029.834
H	19	2184.903	2167.876	2086.917	2166.892
S	20	2271.935	2254.909	2173.949	2253.924
N	21	2385.978 *1193.393 [2+] (17)	2368.951	2287.992	2367.967
E	22	2515.021	2497.994	2417.035 1209.376 [2+] (10)	2497.010
R	23	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
H	23	-	-	-	-
G	22	2552.073	2535.047	2454.087	2534.063
D	21	2495.052	2478.025	2397.066 1199.295 [2+] (10)	2477.041
C	20	2380.025 2380.536 (26) 1190.772 [2+] (26)	2362.998	2282.039 1141.575 [2+] (15)	2362.014
R	19	2219.994	2202.968	2122.008	2201.984
D	18	2063.893	2046.867 *2046.665 (6)	1965.907 1966.402 (6)	2045.883
P	17	1948.866 *975.233 [2+] (43)	1931.840	1850.880 *925.923 [2+] (58)	1930.856
V	16	1851.813 1852.111 (50) *925.923 [2+] (58) 926.559 [2+] (50)	1834.787	1753.828	1833.803 917.251 [2+] (21)

Q	15	1752.745	1735.718	1654.759	1734.734 1735.081 (2)
Q	14	1624.686 1624.537 (3)	1607.660	1526.701	1606.676
P	13	1496.628 1496.914 (11) 748.961 [2+] (11)	1479.601	1398.642 *1399.134 (18) *700.071 [2+] (18)	1478.617
H	12	1399.575 *1399.134 (18) *700.071 [2+] (18) *1399.596 (5)	1382.549 *1382.266 (5)	1301.589	1381.565 *1381.537 (4)
E	11	1262.516	1245.490	1164.530	1244.506
V	10	1133.474 1133.292 (13) 567.445 [2+] (4)	1116.447	1035.488 1035.902 (9) 1035.088 (10)	1115.463
G	9	1034.405	1017.379	936.419	1016.395
t	8	977.384	960.357	879.398	959.373
P	7	796.370 796.290 (97)	779.343 *779.436 (28)	-	778.359
G	6	699.317	682.290	-	681.306
H	5	642.295	625.269	-	624.285
S	4	505.237 505.237 (3)	488.210	-	487.226
N	3	418.205	401.178	-	400.194
E	2	304.162	287.135	-	286.151
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	116	54	46
0.5	116	54	46
1	112	54	48
2	98	48	48
3	84	46	54
4	77	44	57
5	72	42	58
10	42	29	69

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
292.031	70.77 <sub>s</sub>	6.18	b3o (-0.07)
309.931	77.20 <sub>s</sub>	6.74	b3 (-0.18)
334.928	13.07 <sub>s</sub>	1.14	
361.111	23.83 <sub>s</sub>	2.08	
364.048	15.70 <sub>s</sub>	1.37	x6[2+] (-0.11)
368.327	21.19 <sub>s</sub>	1.85	
432.189	93.88 <sub>s</sub>	8.19	
447.226	16.51 <sub>s</sub>	1.44	a8*[2+] (0.53)
453.291	24.75 <sub>s</sub>	2.16	b4* (0.17)



483.306	20.95 <sub>s</sub>	1.82	
487.104	21.72 <sub>s</sub>	1.89	c4 (-0.06) : y4o (-0.12)
504.102	26.96 <sub>s</sub>	2.35	
505.237	39.21 <sub>s</sub>	3.42	y4 (-6.50)
533.248	61.98 <sub>s</sub>	5.41	b9[2+] (0.01) : x4 (0.01)
559.843	32.18 <sub>s</sub>	2.81	
567.445	49.34 <sub>s</sub>	4.30	y10[2+] (0.20)
597.497	215.24 <sub>s</sub>	18.79	b10[2+] (0.23)
603.481	55.78 <sub>s</sub>	4.87	
614.264	49.76 <sub>s</sub>	4.34	
626.249	62.71 <sub>s</sub>	5.47	b5 (0.00)
644.211	44.46 <sub>s</sub>	3.88	
700.071	215.04 <sub>s</sub>	18.77	y13-98[2+] (0.24) : y12[2+] (-0.22) : a12[2+] (-0.24)
714.462	158.30 <sub>s</sub>	13.82	x12[2+] (0.17) : b12[2+] (0.14)
741.158	910.92 <sub>s</sub>	79.54	b6 (-0.11)
748.961	137.15 <sub>s</sub>	11.97	y13[2+] (0.14)
755.848	126.81 <sub>s</sub>	11.07	a13o[2+] (0.01) : a13*[2+] (-0.47)
761.838	259.56 <sub>s</sub>	22.66	
779.436	328.49 <sub>s</sub>	28.68	b13[2+] (0.59) : y7* (0.09) : z7 (0.09)
796.290	1121.90 <sub>s</sub>	97.97	y7 (-0.08)
797.363	446.22 <sub>s</sub>	38.96	
828.590	673.28 <sub>s</sub>	58.79	b14[2+] (0.21)
852.639	346.78 <sub>s</sub>	30.28	
853.417	301.04 <sub>s</sub>	26.28	
883.499	1145.12 <sub>s</sub>	100	
885.261	263.87 <sub>s</sub>	23.04	
898.598	280.76 <sub>s</sub>	24.51	b16-98[2+] (0.20)
917.251	245.69 <sub>s</sub>	21.45	y16o[2+] (-0.15)
925.923	669.60 <sub>s</sub>	58.47	y17-98[2+] (-0.02) : y16[2+] (-0.48)
926.559	573.51 <sub>s</sub>	50.08	y16[2+] (0.14)
975.233	497.10 <sub>s</sub>	43.41	y17[2+] (0.29) : b18-98[2+] (-0.20)
1000.783	84.86 <sub>s</sub>	7.41	
1035.088	119.53 <sub>s</sub>	10.43	y10-98 (-0.40)
1035.902	104.94 <sub>s</sub>	9.16	y10-98 (0.41)
1053.313	93.25 <sub>s</sub>	8.14	
1065.525	81.94 <sub>s</sub>	7.15	b9 (0.07)
1078.245	59.26 <sub>s</sub>	5.17	
1133.292	157.00 <sub>s</sub>	13.71	y10 (-0.18)
1141.575	173.70 <sub>s</sub>	15.16	y20-98[2+] (0.05)
1142.465	409.29 <sub>s</sub>	35.74	
1150.340	63.96 <sub>s</sub>	5.58	
1175.460	61.24 <sub>s</sub>	5.34	b10o (-0.04)
1190.772	306.10 <sub>s</sub>	26.73	y20[2+] (0.25)

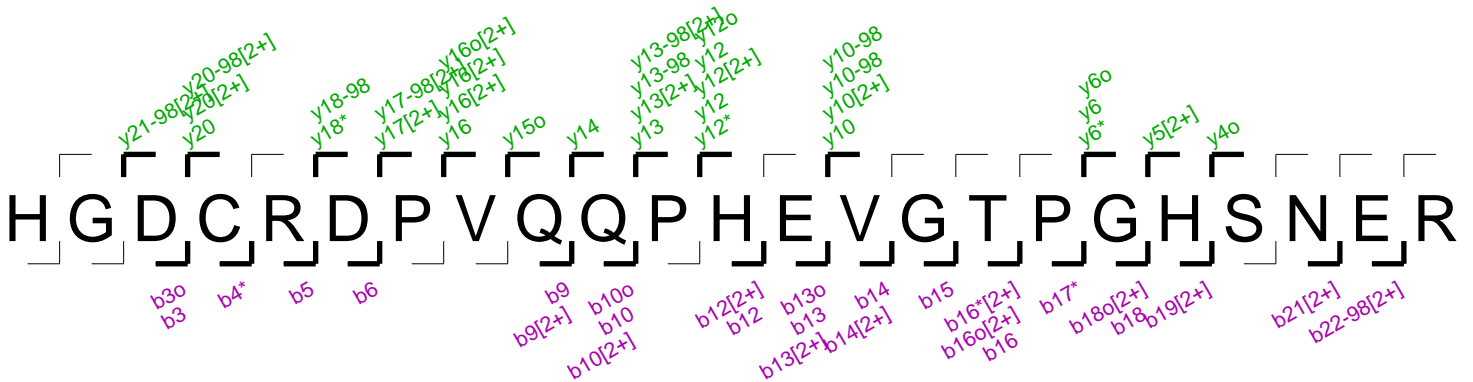
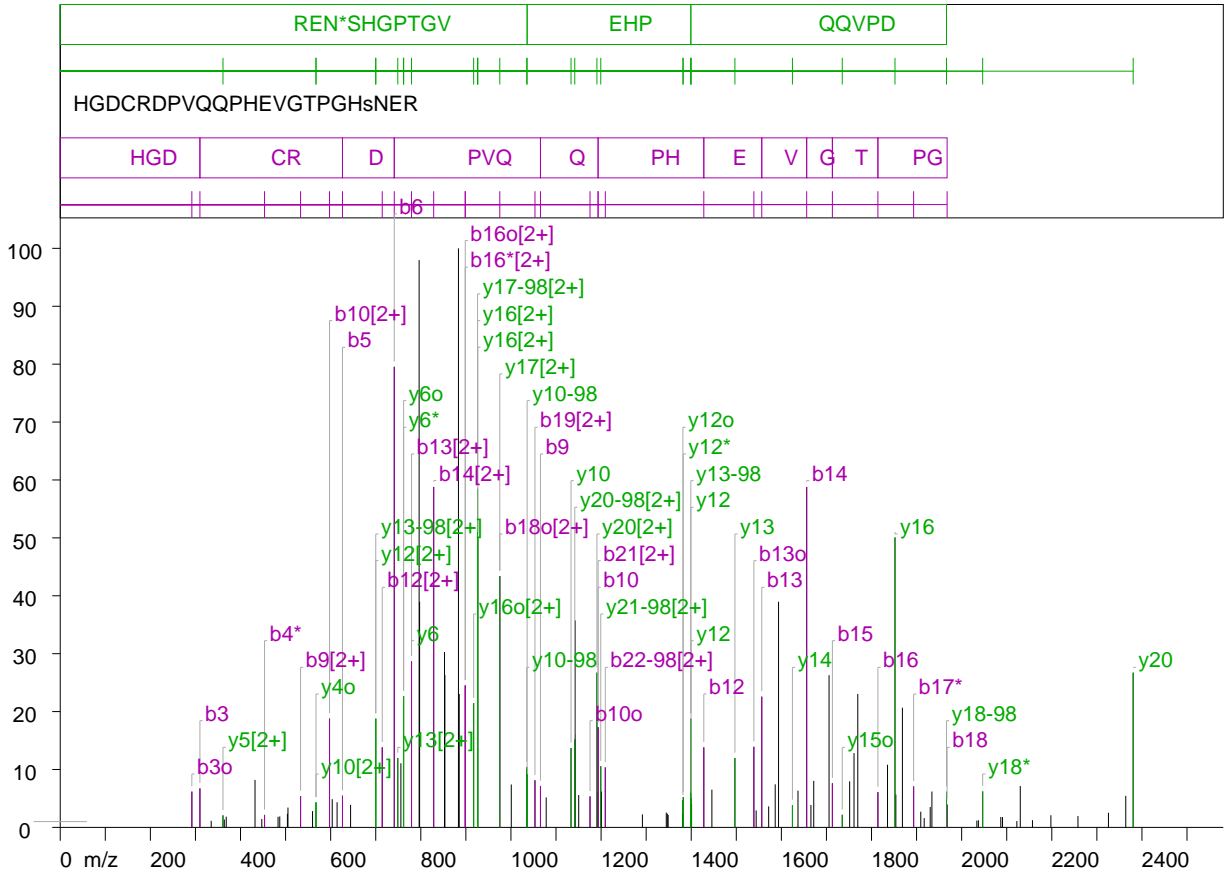
1191.815	70.15 <sub>,</sub>	6.12	
1193.393	198.16 <sub>,</sub>	17.30	b21[2+] (-0.10) : b10 (-0.11)
1199.295	121.01 <sub>,</sub>	10.56	y21-98[2+] (0.25)
1200.794	70.88 <sub>,</sub>	6.18	
1209.376	118.67 <sub>,</sub>	10.36	b22-98[2+] (0.35)
1291.699	25.69 <sub>,</sub>	2.24	
1344.645	29.20 <sub>,</sub>	2.54	
1346.928	27.04 <sub>,</sub>	2.36	
1348.792	24.72 <sub>,</sub>	2.15	
1380.564	27.89 <sub>,</sub>	2.43	
1381.537	53.75 <sub>,</sub>	4.69	y12o (-0.02) : a12o (-0.08)
1382.266	59.95 <sub>,</sub>	5.23	y12* (-0.28) : z12 (-0.28) : a12* (-0.33)
1399.134	215.04 <sub>,</sub>	18.77	y13-98 (0.49) : y12 (-0.44) : a12 (-0.49)
1399.596	58.15 <sub>,</sub>	5.07	y12 (0.02) : a12 (-0.03)
1400.797	46.42 <sub>,</sub>	4.05	
1427.916	158.30 <sub>,</sub>	13.82	x12 (0.34) : b12 (0.29)
1445.815	74.67 <sub>,</sub>	6.52	
1496.914	137.15 <sub>,</sub>	11.97	y13 (0.28)
1538.991	159.46 <sub>,</sub>	13.92	b13o (0.33)
1544.057	33.60 <sub>,</sub>	2.93	
1556.513	258.58 <sub>,</sub>	22.58	b13 (-0.15)
1571.800	41.56 <sub>,</sub>	3.62	
1586.340	85.19 <sub>,</sub>	7.43	
1593.719	446.22 <sub>,</sub>	38.96	
1624.537	44.27 <sub>,</sub>	3.86	y14 (-0.14)
1636.876	72.62 <sub>,</sub>	6.34	
1656.173	673.28 <sub>,</sub>	58.79	b14 (0.43)
1665.568	44.36 <sub>,</sub>	3.87	
1671.867	91.98 <sub>,</sub>	8.03	
1705.826	301.04 <sub>,</sub>	26.28	
1713.179	87.36 <sub>,</sub>	7.62	b15 (0.42)
1735.081	24.94 <sub>,</sub>	2.17	y15o (0.34)
1751.505	91.11 <sub>,</sub>	7.95	
1761.178	146.92 <sub>,</sub>	12.83	
1769.515	263.87 <sub>,</sub>	23.04	
1814.187	69.70 <sub>,</sub>	6.08	
1835.532	123.87 <sub>,</sub>	10.81	
1852.111	573.51 <sub>,</sub>	50.08	y16 (0.29)
1853.996	65.14 <sub>,</sub>	5.68	
1868.529	236.72 <sub>,</sub>	20.67	
1893.460	80.98 <sub>,</sub>	7.07	b16 (-0.31)
1909.335	31.08 <sub>,</sub>	2.71	
1916.888	18.45 <sub>,</sub>	1.61	

1930.229	40.43 <sub>,</sub>	3.53	
1933.983	70.92 <sub>,</sub>	6.19	
1966.402	70.53 <sub>,</sub>	6.15	y18-98 (0.49)
1967.720	45.17 <sub>,</sub>	3.94	
2033.727	13.47 <sub>,</sub>	1.17	
2037.118	13.97 <sub>,</sub>	1.21	
2046.665	71.15 <sub>,</sub>	6.21	z18 (-0.20) : y18* (-0.20)
2086.848	20.62 <sub>,</sub>	1.80	b19-98 (-0.06)
2090.610	20.46 <sub>,</sub>	1.78	
2122.490	12.52 <sub>,</sub>	1.09	y19-98 (0.48)
2130.042	81.94 <sub>,</sub>	7.15	
2157.090	14.28 <sub>,</sub>	1.24	a19 (0.18)
2197.975	24.08 <sub>,</sub>	2.10	
2258.034	22.36 <sub>,</sub>	1.95	
2325.719	28.91 <sub>,</sub>	2.52	
2364.101	62.43 <sub>,</sub>	5.45	
2380.536	306.10 <sub>,</sub>	26.73	y20 (0.51)

S755

# ProPhosSI MS/MS report

Mass: 897.049057 Charge: 3+



## Cav3.2 Rat

(40) 736 HGDCRDPVQQPHEVGTSGHsNER 758 2688.124 (-0.0012) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
20	(755)	Phospho (ST)	b19[2+]=>b22-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	7 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b19 to b22-98 support unique phosphorylation at position 20  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b12 to b15.
Five of six sequential ions present	1/1	Five of Six ions found between b9 and b14 Five of Six ions found between b10 and b15 Five of Six ions found between b11 and b16 Five of Six ions found between b12 and b17 Five of Six ions found between b13 and b18 Five of Six ions found between b14 and b19
Proline directed fragmentation pattern	5/5	PASS: y17-98> y16-98  PASS: b7< b6  PASS: y13-98> y12-98  PASS: b11< b10  No proline ions at y7-98 PASS: b17< b16 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 883.499: intensity: 1145.12) assigned 0 times ion 2 (mass: 796.290: intensity: 1121.90) assigned 0 times ion 3 (mass: 741.158: intensity: 910.92) assigned 1 times ion 4 (mass: 1656.173: intensity: 673.28) assigned 1 times ion 5 (mass: 828.590: intensity: 673.28) assigned 1 times ion 6 (mass: 925.923: intensity: 669.60) assigned 2 times ion 7 (mass: 1852.111: intensity: 573.51) assigned 1 times ion 8 (mass: 926.559: intensity: 573.51) assigned 1 times ion 9 (mass: 975.233: intensity: 497.10) assigned 2 times ion 10 (mass: 1593.719: intensity: 446.22) assigned 0 times

## Ion Table

52 ions assigned of 98 ions above threshold (53%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
H	1	138.066	121.040	-	120.056
G	2	195.088	178.061	-	177.077

D	3	310.115 309.931 (6)	293.088	-	292.104 292.031 (6)
C	4	470.145	453.119 453.291 (2)	-	452.135
R	5	626.246 626.249 (5)	609.220	-	608.236
D	6	741.273 741.158 (79)	724.247	-	723.263
P	7	838.326	821.300	-	820.316
V	8	937.395	920.368	-	919.384
Q	9	1065.453 1065.525 (7) 533.248 [2+] (5)	1048.427	-	1047.443
Q	10	1193.512 *1193.393 (17) 597.497 [2+] (18)	1176.485	-	1175.501 1175.460 (5)
P	11	1290.564	1273.538	-	1272.554
H	12	1427.623 *714.462 [2+] (13) *1427.916 (13)	1410.597	-	1409.613
E	13	1556.666 1556.513 (22) *779.436 [2+] (28)	1539.639	-	1538.655 1538.991 (13)
V	14	1655.734 1656.173 (58) 828.590 [2+] (58)	1638.708	-	1637.724
G	15	1712.756 1713.179 (7)	1695.729	-	1694.745
T	16	1813.804 1814.187 (6)	1796.777 *898.598 [2+] (24)	-	1795.793 *898.598 [2+] (24)
P	17	1910.856	1893.830 1893.460 (7)	-	1892.846
G	18	1967.878 1967.720 (3)	1950.851	-	1949.867 *975.233 [2+] (43)
H	19	2104.937 1053.313 [2+] (8)	2087.910	-	2086.926
s	20	2271.935	2254.909	2173.949	2253.924
N	21	2385.978 *1193.393 [2+] (17)	2368.951	2287.992	2367.967
E	22	2515.021	2497.994	2417.035 1209.376 [2+] (10)	2497.010
R	23	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
H	23	-	-	-	-
G	22	2552.073	2535.047	2454.087	2534.063
D	21	2495.052	2478.025	2397.066 1199.295 [2+] (10)	2477.041
C	20	2380.025 2380.536 (26) 1190.772 [2+] (26)	2362.998	2282.039 1141.575 [2+] (15)	2362.014
R	19	2219.994	2202.968	2122.008	2201.984
D	18	2063.893	2046.867 *2046.665 (6)	1965.907 1966.402 (6)	2045.883
P	17	1948.866 *975.233 [2+] (43)	1931.840	1850.880 *925.923 [2+] (58)	1930.856
V	16	1851.813 1852.111 (50)	1834.787	1753.828	1833.803 917.251 [2+] (21)

-	-	*925.923 [2+] (58) 926.559 [2+] (50)	-	-	-
Q	15	1752.745	1735.718	1654.759	1734.734 1735.081 (2)
Q	14	1624.686 1624.537 (3)	1607.660	1526.701	1606.676
P	13	1496.628 1496.914 (11) 748.961 [2+] (11)	1479.601	1398.642 *1399.134 (18) *700.071 [2+] (18)	1478.617
H	12	1399.575 *1399.134 (18) *700.071 [2+] (18) *1399.596 (5)	1382.549 *1382.266 (5)	1301.589	1381.565 *1381.537 (4)
E	11	1262.516	1245.490	1164.530	1244.506
V	10	1133.474 1133.292 (13) *567.445 [2+] (4)	1116.447	1035.488 1035.902 (9) 1035.088 (10)	1115.463
G	9	1034.405	1017.379	936.419	1016.395
T	8	977.384	960.357	879.398	959.373
P	7	876.336	859.309	778.350	858.325
G	6	779.283 *779.436 (28)	762.257 *761.838 (22)	681.297	761.273 *761.838 (22)
H	5	722.262 361.111 [2+] (2)	705.235	624.276	704.251
s	4	585.203	568.176	487.217	567.192 *567.445 (4)
N	3	418.205	401.178	-	400.194
E	2	304.162	287.135	-	286.151
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	116	56	48
0.5	116	56	48
1	112	56	50
2	98	52	53
3	84	49	58
4	77	47	61
5	72	45	62
10	42	30	71

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
292.031	70.77 <sub>,</sub>	6.18	b3o (-0.07)
309.931	77.20 <sub>,</sub>	6.74	b3 (-0.18)
334.928	13.07 <sub>,</sub>	1.14	
361.111	23.83 <sub>,</sub>	2.08	y5[2+] (-0.52)
364.048	15.70 <sub>,</sub>	1.37	
368.327	21.19 <sub>,</sub>	1.85	
432.189	93.88 <sub>,</sub>	8.19	



447.226	16.51 <sub>s</sub>	1.44	a8*[2+] (0.53)
453.291	24.75 <sub>s</sub>	2.16	b4* (0.17)
483.306	20.95 <sub>s</sub>	1.82	
487.104	21.72 <sub>s</sub>	1.89	c4 (-0.06) : y4-98 (-0.11)
504.102	26.96 <sub>s</sub>	2.35	
505.237	39.21 <sub>s</sub>	3.42	
533.248	61.98 <sub>s</sub>	5.41	b9[2+] (0.01)
559.843	32.18 <sub>s</sub>	2.81	
567.445	49.34 <sub>s</sub>	4.30	y4o (0.25) : y10[2+] (0.20)
597.497	215.24 <sub>s</sub>	18.79	b10[2+] (0.23)
603.481	55.78 <sub>s</sub>	4.87	
614.264	49.76 <sub>s</sub>	4.34	
626.249	62.71 <sub>s</sub>	5.47	b5 (0.00)
644.211	44.46 <sub>s</sub>	3.88	
700.071	215.04 <sub>s</sub>	18.77	y13-98[2+] (0.24) : y12[2+] (-0.22) : a12[2+] (-0.24)
714.462	158.30 <sub>s</sub>	13.82	x12[2+] (0.17) : b12[2+] (0.14)
741.158	910.92 <sub>s</sub>	79.54	b6 (-0.11)
748.961	137.15 <sub>s</sub>	11.97	y13[2+] (0.14)
755.848	126.81 <sub>s</sub>	11.07	a13o[2+] (0.01) : a13*[2+] (-0.47)
761.838	259.56 <sub>s</sub>	22.66	y6o (0.56) : y6* (-0.41) : z6 (-0.41)
779.436	328.49 <sub>s</sub>	28.68	b13[2+] (0.59) : y6 (0.15)
796.290	1121.90 <sub>s</sub>	97.97	
797.363	446.22 <sub>s</sub>	38.96	
828.590	673.28 <sub>s</sub>	58.79	b14[2+] (0.21)
852.639	346.78 <sub>s</sub>	30.28	
853.417	301.04 <sub>s</sub>	26.28	
883.499	1145.12 <sub>s</sub>	100	
885.261	263.87 <sub>s</sub>	23.04	a16*[2+] (0.36)
898.598	280.76 <sub>s</sub>	24.51	b16o[2+] (0.19) : b16*[2+] (-0.29)
917.251	245.69 <sub>s</sub>	21.45	y16o[2+] (-0.15)
925.923	669.60 <sub>s</sub>	58.47	y17-98[2+] (-0.02) : y16[2+] (-0.48)
926.559	573.51 <sub>s</sub>	50.08	y16[2+] (0.14)
975.233	497.10 <sub>s</sub>	43.41	y17[2+] (0.29) : b18o[2+] (-0.20)
1000.783	84.86 <sub>s</sub>	7.41	
1035.088	119.53 <sub>s</sub>	10.43	y10-98 (-0.40)
1035.902	104.94 <sub>s</sub>	9.16	y10-98 (0.41)
1053.313	93.25 <sub>s</sub>	8.14	b19[2+] (0.34)
1065.525	81.94 <sub>s</sub>	7.15	b9 (0.07)
1078.245	59.26 <sub>s</sub>	5.17	
1133.292	157.00 <sub>s</sub>	13.71	y10 (-0.18)
1141.575	173.70 <sub>s</sub>	15.16	y20-98[2+] (0.05)
1142.465	409.29 <sub>s</sub>	35.74	
1150.340	63.96 <sub>s</sub>	5.58	

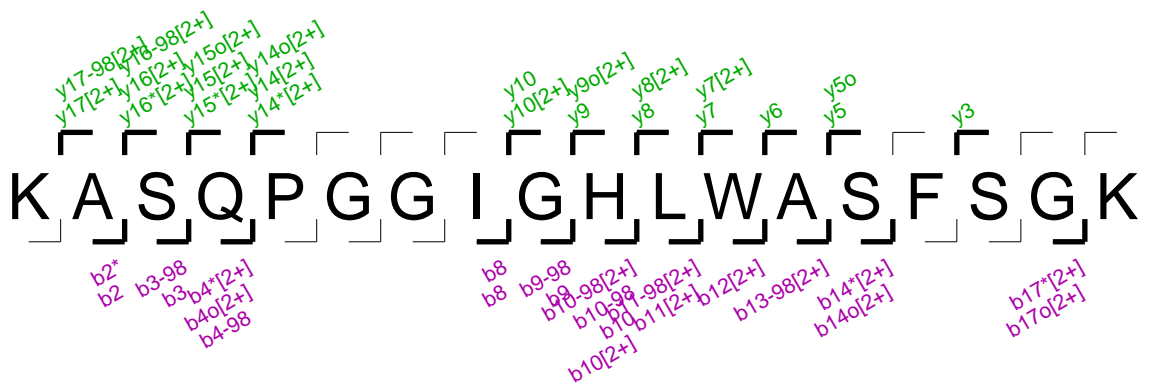
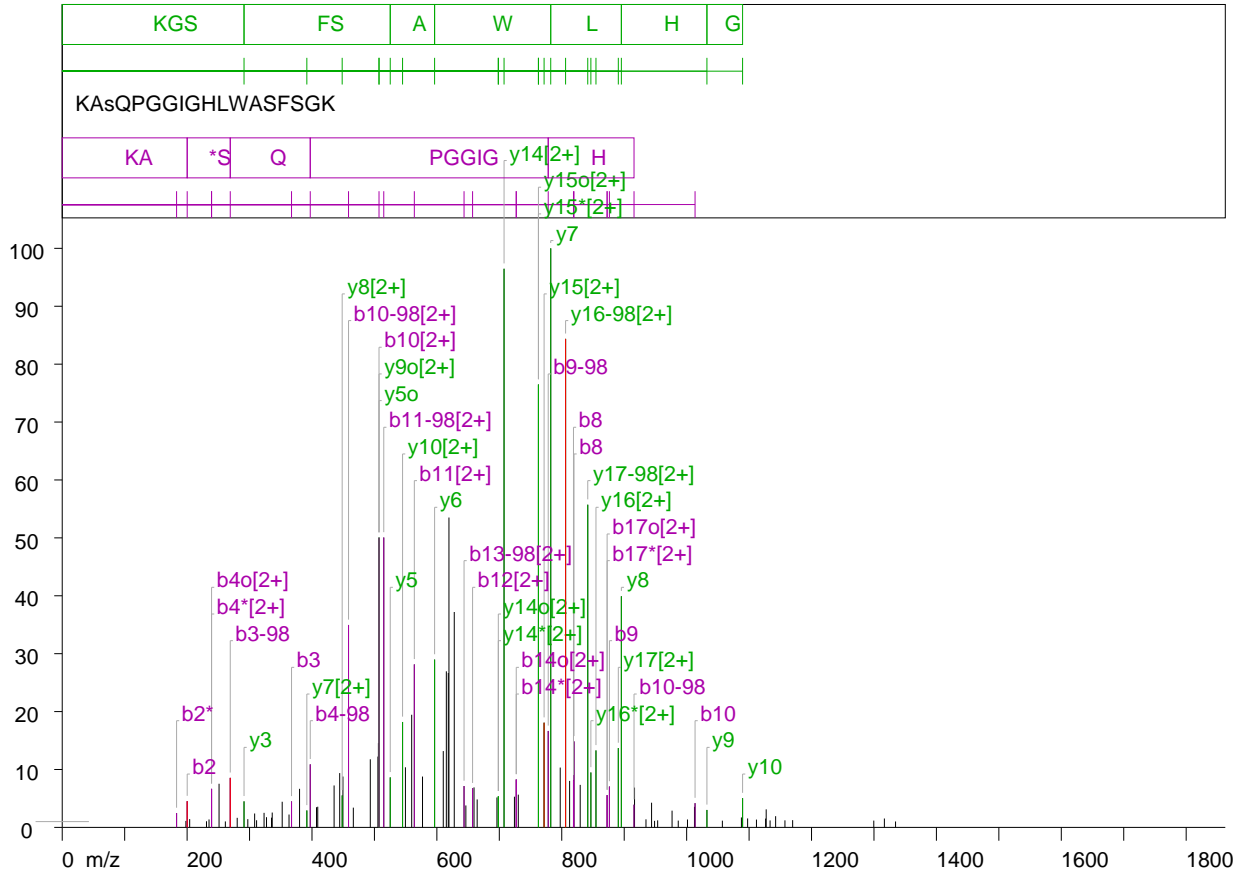
1175.460	61.24 <sub>s</sub>	5.34	b10o (-0.04)
1190.772	306.10 <sub>s</sub>	26.73	y20[2+] (0.25)
1191.815	70.15 <sub>s</sub>	6.12	
1193.393	198.16 <sub>s</sub>	17.30	b21[2+] (-0.10) : b10 (-0.11)
1199.295	121.01 <sub>s</sub>	10.56	y21-98[2+] (0.25)
1200.794	70.88 <sub>s</sub>	6.18	
1209.376	118.67 <sub>s</sub>	10.36	b22-98[2+] (0.35)
1291.699	25.69 <sub>s</sub>	2.24	
1344.645	29.20 <sub>s</sub>	2.54	
1346.928	27.04 <sub>s</sub>	2.36	
1348.792	24.72 <sub>s</sub>	2.15	
1380.564	27.89 <sub>s</sub>	2.43	
1381.537	53.75 <sub>s</sub>	4.69	y12o (-0.02) : a12o (-0.08)
1382.266	59.95 <sub>s</sub>	5.23	y12* (-0.28) : z12 (-0.28) : a12* (-0.33)
1399.134	215.04 <sub>s</sub>	18.77	y13-98 (0.49) : y12 (-0.44) : a12 (-0.49)
1399.596	58.15 <sub>s</sub>	5.07	y12 (0.02) : a12 (-0.03)
1400.797	46.42 <sub>s</sub>	4.05	
1427.916	158.30 <sub>s</sub>	13.82	x12 (0.34) : b12 (0.29)
1445.815	74.67 <sub>s</sub>	6.52	
1496.914	137.15 <sub>s</sub>	11.97	y13 (0.28)
1538.991	159.46 <sub>s</sub>	13.92	b13o (0.33)
1544.057	33.60 <sub>s</sub>	2.93	
1556.513	258.58 <sub>s</sub>	22.58	b13 (-0.15)
1571.800	41.56 <sub>s</sub>	3.62	
1586.340	85.19 <sub>s</sub>	7.43	
1593.719	446.22 <sub>s</sub>	38.96	
1624.537	44.27 <sub>s</sub>	3.86	y14 (-0.14)
1636.876	72.62 <sub>s</sub>	6.34	
1656.173	673.28 <sub>s</sub>	58.79	b14 (0.43)
1665.568	44.36 <sub>s</sub>	3.87	
1671.867	91.98 <sub>s</sub>	8.03	
1705.826	301.04 <sub>s</sub>	26.28	
1713.179	87.36 <sub>s</sub>	7.62	b15 (0.42)
1735.081	24.94 <sub>s</sub>	2.17	y15o (0.34)
1751.505	91.11 <sub>s</sub>	7.95	
1761.178	146.92 <sub>s</sub>	12.83	
1769.515	263.87 <sub>s</sub>	23.04	
1814.187	69.70 <sub>s</sub>	6.08	b16 (0.38)
1835.532	123.87 <sub>s</sub>	10.81	
1852.111	573.51 <sub>s</sub>	50.08	y16 (0.29)
1853.996	65.14 <sub>s</sub>	5.68	
1868.529	236.72 <sub>s</sub>	20.67	
1893.460	80.98 <sub>s</sub>	7.07	b17* (-0.37)

1909.335	31.08 <sub>,</sub>	2.71	
1916.888	18.45 <sub>,</sub>	1.61	
1930.229	40.43 <sub>,</sub>	3.53	
1933.983	70.92 <sub>,</sub>	6.19	
1966.402	70.53 <sub>,</sub>	6.15	y18-98 (0.49)
1967.720	45.17 <sub>,</sub>	3.94	b18 (-0.15)
2033.727	13.47 <sub>,</sub>	1.17	
2037.118	13.97 <sub>,</sub>	1.21	
2046.665	71.15 <sub>,</sub>	6.21	z18 (-0.20) : y18* (-0.20)
2086.848	20.62 <sub>,</sub>	1.80	b19o (-0.07)
2090.610	20.46 <sub>,</sub>	1.78	
2122.490	12.52 <sub>,</sub>	1.09	c19 (0.52) : y19-98 (0.48)
2130.042	81.94 <sub>,</sub>	7.15	
2157.090	14.28 <sub>,</sub>	1.24	
2197.975	24.08 <sub>,</sub>	2.10	
2258.034	22.36 <sub>,</sub>	1.95	
2325.719	28.91 <sub>,</sub>	2.52	
2364.101	62.43 <sub>,</sub>	5.45	
2380.536	306.10 <sub>,</sub>	26.73	y20 (0.51)

**S767**

# ProPhosSI MS/MS report

Mass: 636.647216796875 Charge: 3+



## Cav3.2 Rat

(40) 765 KAsQPGGIGHLWASFS GK 782 1906.909 (0.0090) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(767)	Phospho (ST)	b2 => b3-98 : y15[2+] => y16-98[2+]

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b2 to b3-98, transition y15 to y16-98 support unique phosphorylation at position 3  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y5 to y8.
Five of six sequential ions present	1/1	Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11
Proline directed fragmentation pattern	2/2	PASS: y14> y13  PASS: b5-98< b4-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 782.3322754: intensity: 4223.9799804688) assigned 1 times ion 2 (mass: 707.5706787: intensity: 4075.1848144531) assigned 1 times ion 3 (mass: 806.1505127: intensity: 3563.6220703125) assigned 1 times ion 4 (mass: 762.6607666: intensity: 3230.283203125) assigned 3 times ion 5 (mass: 841.6268311: intensity: 2353.9458007813) assigned 1 times ion 6 (mass: 619.3394775: intensity: 2260.4096679688) assigned 0 times ion 7 (mass: 514.9327393: intensity: 2114.8166503906) assigned 1 times ion 8 (mass: 507.3489075: intensity: 2113.9306640625) assigned 3 times ion 9 (mass: 895.4542236: intensity: 1685.9973144531) assigned 1 times ion 10 (mass: 627.8198242: intensity: 1571.224609375) assigned 0 times

### Ion Table

45 ions assigned of 77 ions above threshold (58%).

#### N-terminal ions

AA	N-ion	b	b*	b-98	bo
K	1	129.102	112.076	-	111.092
A	2	200.139 200.1352081 (4)	183.113 183.1346741 (2)	-	182.129
s	3	367.138 367.2416992 (4)	350.111	269.152 269.1040649 (8)	349.127
Q	4	495.196	478.170 *239.1551514 [2+] (6)	397.210 397.2113647 (10)	477.186 *239.1551514 [2+] (6)

P	5	592.249	575.223	494.263	574.239
G	6	649.271	632.244	551.285	631.260
G	7	706.292	689.265	608.306	688.281
I	8	819.376 818.788208 (8) 819.6325684 (14)	802.350	721.390	801.366
G	9	876.398 876.2927246 (7)	859.371	778.412 778.342041 (16)	858.387
H	10	1013.456 1013.46582 (4) *507.3489075 [2+] (50)	996.430	915.471 458.517334 [2+] (34) 915.7303467 (3)	995.446
L	11	1126.541 *563.8987427 [2+] (28)	1109.514	1028.555 514.9327393 [2+] (50)	1108.530
W	12	1312.620 657.1738281 [2+] (6)	1295.593	1214.634	1294.609
A	13	1383.657	1366.630	1285.671 643.5109863 [2+] (7)	1365.646
S	14	1470.689	1453.662 *727.1247559 [2+] (8)	1372.703	1452.678 *727.1247559 [2+] (8)
F	15	1617.757	1600.731	1519.772	1599.747
S	16	1704.789	1687.763	1606.804	1686.779
G	17	1761.811	1744.784 *872.6531982 [2+] (5)	1663.825	1743.800 *872.6531982 [2+] (5)
K	18	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
K	18	-	-	-	-
A	17	1779.822 890.560791 [2+] (13)	1762.795	1681.836 841.6268311 [2+] (55)	1761.811
s	16	1708.784 854.7893066 [2+] (13)	1691.758 *846.645874 [2+] (9)	1610.798 806.1505127 [2+] (84)	1690.774
Q	15	1541.786 771.7022705 [2+] (18)	1524.760 *762.6607666 [2+] (76)	-	1523.775 *762.6607666 [2+] (76)
P	14	1413.727 707.5706787 [2+] (96)	1396.701 *698.3913574 [2+] (5)	-	1395.717 *698.3913574 [2+] (5)
G	13	1316.675	1299.648	-	1298.664
G	12	1259.653	1242.627	-	1241.643
I	11	1202.632	1185.605	-	1184.621
G	10	1089.548 545.0587158 [2+] (18) 1089.573975 (5)	1072.521	-	1071.537
H	9	1032.526 1032.484497 (3)	1015.500	-	1014.516 *507.3489075 [2+] (50)
L	8	895.467 895.4542236 (39) 448.3309937 [2+] (5)	878.441	-	877.457
W	7	782.383 782.3322754 (100) 391.734314 [2+] (2)	765.357	-	764.373
A	6	596.304 596.3730469 (28)	579.277	-	578.293
S	5	525.267 525.3062744 (8)	508.240	-	507.256 *507.3489075 (50)
F	4	438.235	421.208	-	420.224
S	3	291.166 291.1594238 (4)	274.140	-	273.156

G	2	204.134	187.108	-	186.124
K	1	147.113	130.086	-	129.102

### Ion distribution

Threshold	Ion count	Matches	% matched
0	134	58	43
0.5	123	56	45
1	104	51	49
2	77	45	58
3	70	43	61
4	62	40	64
5	55	36	65
10	29	21	72

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
183.1346741	104.6109008789 <sub>1</sub>	2.47	b2* (0.02)
198.0514526	47.384185791 <sub>1</sub>	1.12	
200.1352081	191.2577209473 <sub>1</sub>	4.52	b2 (-0.00)
204.1161957	60.3963050842 <sub>1</sub>	1.42	y2 (-0.01)
231.036438	44.747756958 <sub>1</sub>	1.05	
235.09198	57.9577713013 <sub>1</sub>	1.37	
239.1551514	281.0525817871 <sub>1</sub>	6.65	b4o[2+] (0.05) : b4*[2+] (-0.43)
251.1574554	318.4244995117 <sub>1</sub>	7.53	
261.2457275	43.6239242554 <sub>1</sub>	1.03	
269.1040649	361.3433227539 <sub>1</sub>	8.55	b3-98 (-0.04)
280.223938	69.7907791138 <sub>1</sub>	1.65	
291.1594238	189.9580993652 <sub>1</sub>	4.49	y3 (-0.00)
297.1973267	60.147518158 <sub>1</sub>	1.42	b5[2+] (0.56)
308.1654663	101.3315582275 <sub>1</sub>	2.39	
311.256897	52.1039352417 <sub>1</sub>	1.23	a6[2+] (0.11)
323.2233276	106.1564483643 <sub>1</sub>	2.51	
327.1565857	74.3915557861 <sub>1</sub>	1.76	
335.1796875	71.1344833374 <sub>1</sub>	1.68	
336.2815552	108.3147125244 <sub>1</sub>	2.56	
352.2822876	187.1207122803 <sub>1</sub>	4.42	
363.2129822	93.8795623779 <sub>1</sub>	2.22	
367.2416992	189.326171875 <sub>1</sub>	4.48	b3 (0.10)
380.0979614	281.3803405762 <sub>1</sub>	6.66	
391.734314	123.5500106812 <sub>1</sub>	2.92	y7[2+] (0.03)
397.2113647	459.9897460938 <sub>1</sub>	10.88	b4-98 (0.00)
407.2460938	147.2420043945 <sub>1</sub>	3.48	



409.2000732	150.8486022949,	3.57	
435.3997192	305.9363098145,	7.24	
444.3591614	396.196685791,	9.37	
448.3309937	233.272567749,	5.52	y8[2+] (0.09)
449.5515442	370.9985961914,	8.78	a4o (0.36)
458.517334	1476.7277832031,	34.96	b10-98[2+] (0.27)
466.1941223	144.112487793,	3.41	x4 (-0.03)
493.3479919	496.7499389648,	11.76	a10[2+] (0.11)
505.6428528	516.5830078125,	12.22	
506.3612366	614.9125366211,	14.55	
507.3489075	2113.9306640625,	50.04	b10[2+] (0.11) : y5o (0.09) : y9o[2+] (-0.41)
514.9327393	2114.8166503906,	50.06	b11-98[2+] (0.15)
525.3062744	364.7780456543,	8.63	y5 (0.03)
545.0587158	768.9884033203,	18.20	y10[2+] (-0.21)
549.6138916	438.4366455078,	10.37	a11[2+] (-0.16)
559.675293	821.6794433594,	19.45	x10[2+] (0.39)
563.8987427	1188.9721679688,	28.14	b11[2+] (0.12) : a5 (-0.35)
576.9904175	370.9055480957,	8.78	
596.3730469	1224.1041259766,	28.97	y6 (0.06)
610.2254639	556.7518310547,	13.18	
615.1580811	1138.5537109375,	26.95	
618.2860107	1126.2561035156,	26.66	
619.3394775	2260.4096679688,	53.51	
627.8198242	1571.224609375,	37.19	
643.5109863	301.7297363281,	7.14	b13-98[2+] (0.17)
646.3984985	160.0970153809,	3.79	
657.1738281	285.3500976563,	6.75	b12[2+] (0.35)
659.4732666	291.8381347656,	6.90	
664.5183716	203.9619140625,	4.82	
696.1784668	218.3371887207,	5.16	
698.3913574	226.4786376953,	5.36	y14o[2+] (0.02) : y14*[2+] (-0.46) : z14[2+] (-0.46)
707.5706787	4075.1848144531,	96.47	y14[2+] (0.20)
724.1916504	223.8597412109,	5.29	
727.1247559	349.6002197266,	8.27	b14o[2+] (0.28) : b14*[2+] (-0.21)
730.3955078	238.9128112793,	5.65	
762.6607666	3230.283203125,	76.47	y15o[2+] (0.26) : y15*[2+] (-0.22) : z15[2+] (-0.22)
771.7022705	763.6762695313,	18.07	y15[2+] (0.30)
778.342041	703.5729370117,	16.65	b9-98 (-0.07)
782.3322754	4223.9799804688,	100	y7 (-0.05)
797.5270996	436.4644775391,	10.33	
806.1505127	3563.6220703125,	84.36	y16-98[2+] (0.24)
812.6011963	339.2046508789,	8.03	
818.788208	343.0336608887,	8.12	b8 (-0.58)

819.6325684	627.2327880859,	14.84	b8 (0.25)
829.5476074	310.2118835449,	7.34	a16o[2+] (-0.34)
841.6268311	2353.9458007813,	55.72	y17-98[2+] (0.20)
846.645874	400.5522460938,	9.48	y16*[2+] (0.26) : z16[2+] (0.26)
854.7893066	561.4207763672,	13.29	y16[2+] (-0.10)
872.6531982	235.3727111816,	5.57	b17o[2+] (0.24) : b17*[2+] (-0.24)
876.2927246	298.0696105957,	7.05	b9 (-0.10)
890.560791	578.6624145508,	13.69	y17[2+] (0.14)
895.4542236	1685.9973144531,	39.91	y8 (-0.01)
915.7303467	165.5553283691,	3.91	b10-98 (0.25)
916.5400391	290.4176025391,	6.87	
934.8740234	58.8388137817,	1.39	
943.8443604	180.1066436768,	4.26	
948.6276855	47.7251548767,	1.12	
953.6016846	51.4265060425,	1.21	
976.6446533	122.2106170654,	2.89	
986.5495605	49.5744552612,	1.17	
1001.351563	57.6520195007,	1.36	
1012.552246	149.9859466553,	3.55	
1013.46582	176.8447418213,	4.18	b10 (0.00)
1032.484497	127.277923584,	3.01	y9 (-0.04)
1057.213989	49.1872177124,	1.16	
1087.725464	72.5927810669,	1.71	
1089.573975	213.2252502441,	5.04	y10 (0.02)
1097.673096	65.2645492554,	1.54	
1111.816162	57.068611145,	1.35	
1126.44812	64.2663421631,	1.52	b11 (-0.09)
1127.414551	131.6219940186,	3.11	
1133.626465	50.8266143799,	1.20	
1142.512939	81.8007888794,	1.93	
1157.439209	51.3856468201,	1.21	
1169.788574	52.8947601318,	1.25	
1299.717041	49.6362571716,	1.17	y13* (0.06) : z13 (0.06)
1316.660522	64.8597335815,	1.53	y13 (-0.01)
1334.584595	43.2761688232,	1.02	

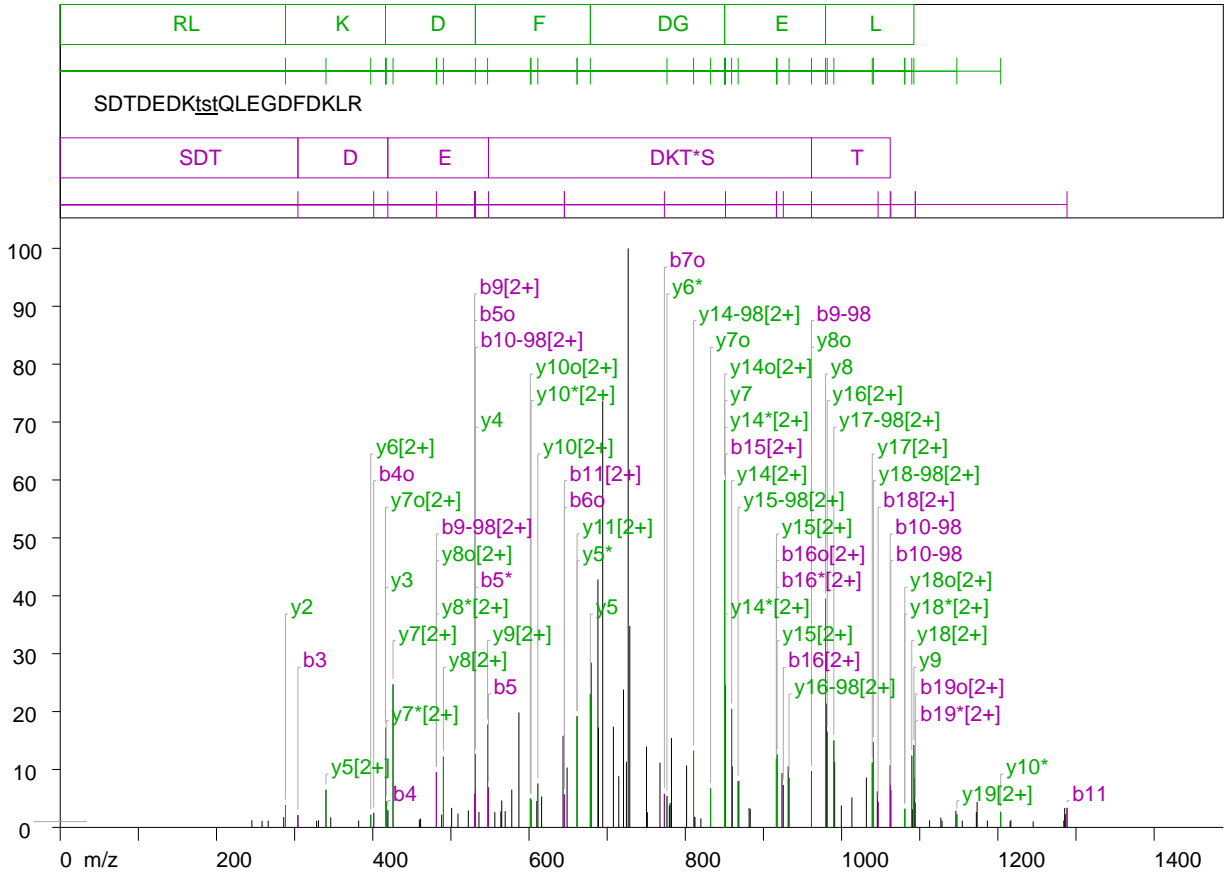
T1031 or

S1032 or

T1033

# ProPhosSI MS/MS report

Mass: 794.013549804688 Charge: 3+



## Cav3.2 Rat

(65) 1024 SDTDEDKstQLEGDFDKLR 1043 2379.011 (0.0055) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
8 or 9 or 10	(1031 or 1032 or 1033)	Phospho (ST)	y10[2+]=>y14-98[2+]

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	7 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	Transition y10[2+] to y14-98[2+] suggests phosphorylation at position 1031, 1032 or 1033
Four Sequential b or y ions	1/1	Sequence of four y ions found from y2 to y5.
Five of six sequential ions present	1/1	Five of Six ions found between y1 and y6 Five of Six ions found between y2 and y7 Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y13 and y18 Five of Six ions found between y14 and y19
Proline directed fragmentation pattern	0/0	
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	4/6	ion 1 (mass: 726.9064941: intensity: 55601.171875) assigned 0 times ion 2 (mass: 694.2990723: intensity: 40933.7578125) assigned 0 times ion 3 (mass: 850.3981934: intensity: 33304.3359375) assigned 4 times ion 4 (mass: 688.1502686: intensity: 23805.568359375) assigned 0 times ion 5 (mass: 979.4541016: intensity: 21972.0859375) assigned 1 times ion 6 (mass: 728.9086914: intensity: 19338.162109375) assigned 0 times ion 7 (mass: 679.5153809: intensity: 15809.1455078125) assigned 0 times ion 8 (mass: 425.9342041: intensity: 13735.0087890625) assigned 1 times ion 9 (mass: 851.4431152: intensity: 13633.482421875) assigned 3 times ion 10 (mass: 720.8850098: intensity: 13234.498046875) assigned 0 times

### Ion Table

56 ions assigned of 100 ions above threshold (56%).

#### N-terminal ions

AA	N-ion	b	b*	b-98	bo
S	1	88.039	71.013	-	70.029
D	2	203.066	186.040	-	185.056
T	3	304.114	287.087	-	286.103

-	-	304.2335815 (2)	-	-	-
D	4	419.141 419.2612 (2)	402.114	-	401.130 401.1953125 (2)
E	5	548.184 548.0411987 (6)	531.157 *531.2991943 (12)	-	530.173 *530.2893066 (5)
D	6	663.210	646.184	-	645.200 *645.2532959 (5)
K	7	791.305	774.279	-	773.295 773.2181396 (5)
T	8	892.353	875.327	-	874.343
s	9	1059.351 *530.2893066 [2+] (5)	1042.325	961.366 *961.4696045 (9) *481.4695129 [2+] (9)	1041.341
T	10	1160.399	1143.373	1062.413 *531.2991943 [2+] (12) 1062.23999 (10) 1063.000854 (6)	1142.389
Q	11	1288.458 *645.2532959 [2+] (5) 1288.540771 (3)	1271.431	1190.472	1270.447
L	12	1401.542	1384.515	1303.556	1383.531
E	13	1530.584	1513.558	1432.598	1512.574
G	14	1587.606	1570.579	1489.620	1569.595
D	15	1702.633 *851.4431152 [2+] (24)	1685.606	1604.647	1684.622
F	16	1849.701 925.4393311 [2+] (7)	1832.675 *916.6154785 [2+] (11)	1751.715	1831.691 *916.6154785 [2+] (11)
D	17	1964.728	1947.702	1866.742	1946.718
K	18	2092.823 1046.719604 [2+] (4)	2075.797	1994.837	2074.813
L	19	2205.907	2188.881 *1094.380005 [2+] (4)	2107.921	2187.897 *1094.380005 [2+] (4)
R	20	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
S	20	-	-	-	-
D	19	2292.987 1147.503906 [2+] (2)	2275.960	2195.001	2274.976
T	18	2177.960 *1089.823364 [2+] (12)	2160.933 *1080.865234 [2+] (3)	2079.974 1040.697144 [2+] (14)	2159.949 *1080.865234 [2+] (3)
D	17	2076.912 1039.268799 [2+] (11)	2059.886	1978.926 990.0927734 [2+] (15)	2058.902
E	16	1961.885 981.654541 [2+] (16)	1944.859	1863.899 932.7960205 [2+] (8)	1943.875
D	15	1832.843 *916.6154785 [2+] (11) 917.4641113 [2+] (12)	1815.816	1734.857 867.6484375 [2+] (7)	1814.832
K	14	1717.816 859.2803955 [2+] (20)	1700.789 *851.4431152 [2+] (24) *850.3981934 [2+] (59)	1619.830 810.5582275 [2+] (13)	1699.805 *850.3981934 [2+] (59)
T	13	1589.721	1572.694	1491.735	1571.710
s	12	1488.673	1471.647	1390.687	1470.663
T	11	1321.675 *661.4934082 [2+] (19)	1304.648	-	1303.664
Q	10	1220.627 611.1989746 [2+] (7)	1203.601 *602.5950928 [2+] (4) *1203.620117 (2)	-	1202.617 601.6763916 [2+] (5)

L	9	1092.569 546.9180908 [2+] (17) 1092.535034 (14)	1075.542	-	1074.558
E	8	979.484 490.3918152 [2+] (12) 979.4541016 (39)	962.458 *481.4695129 [2+] (9)	-	961.474 *961.4696045 (9) *481.4695129 [2+] (9)
G	7	850.442 425.9342041 [2+] (24) *850.3981934 (59)	833.415 *417.3232117 [2+] (4)	-	832.431 832.4106445 (6) *416.3016052 [2+] (17)
D	6	793.420 397.4235535 [2+] (2)	776.394 *776.5163574 (5)	-	775.410
F	5	678.393 *340.0909729 [2+] (6) *678.4365845 (23)	661.367 *661.4934082 (19)	-	660.383
D	4	531.325 *531.2991943 (12)	514.298	-	513.314
K	3	416.298 *416.3016052 (17)	399.272	-	398.287
L	2	288.203 288.2720032 (3)	271.177	-	270.193
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	145	67	46
0.5	141	65	46
1	122	61	50
2	100	56	56
3	83	49	59
4	73	46	63
5	64	39	60
10	41	23	56

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
245.2513733	690.0338134766 <sub>s</sub>	1.24	
258.3065186	624.2426147461 <sub>s</sub>	1.12	a3o (0.19)
266.1888428	644.6857910156 <sub>s</sub>	1.15	b5o[2+] (0.59) : b5*[2+] (0.10) : y4[2+] (0.02)
286.0686035	985.6896972656 <sub>s</sub>	1.77	b3o (-0.03)
288.2720032	2131.7734375 <sub>s</sub>	3.83	y2 (0.06)
304.2335815	1173.6070556641 <sub>s</sub>	2.11	b3 (0.11)
328.102356	615.0996704102 <sub>s</sub>	1.10	
330.5328064	676.0269165039 <sub>s</sub>	1.21	y5o[2+] (-0.16)
340.0909729	3616.6123046875 <sub>s</sub>	6.50	y5[2+] (0.39) : c6[2+] (-0.53)
346.2120972	970.147277832 <sub>s</sub>	1.74	
381.9591064	659.4693603516 <sub>s</sub>	1.18	a7[2+] (-0.20)
397.4235535	1214.3837890625 <sub>s</sub>	2.18	y6[2+] (0.20)
401.1953125	1401.5740966797 <sub>s</sub>	2.52	b4o (0.06)
416.3016052	9559.67578125 <sub>s</sub>	17.19	y3 (0.00) : y7o[2+] (-0.41)

417.3232117	2501.6142578125	4.49	z7[2+] (0.11) : y7*[2+] (0.11)
419.2612	1639.9564208984	2.94	b4 (0.11)
425.9342041	13735.0087890625	24.70	y7[2+] (0.20)
459.6352844	755.1765136719	1.35	
461.2037048	849.3011474609	1.52	
481.4695129	5320.0517578125	9.56	b9-98[2+] (0.28) : y8o[2+] (0.22) : z8[2+] (-0.26) : y8*[2+] (-0.26)
488.1851807	1230.2458496094	2.21	
490.3918152	6793.4619140625	12.21	y8[2+] (0.14)
500.8960266	1877.2619628906	3.37	
509.0208435	1323.9818115234	2.38	
522.2915039	1631.9738769531	2.93	
530.2893066	3213.4921875	5.77	b5o (0.11) : b9[2+] (0.10)
531.2991943	7033.0639648438	12.64	b5* (0.14) : y4 (-0.02) : b10-98[2+] (-0.41)
535.9144287	1479.9140625	2.66	
546.9180908	9859.296875	17.73	y9[2+] (0.12)
548.0411987	3836.8210449219	6.90	b5 (-0.14)
556.2072754	1462.8933105469	2.63	
563.9324951	1535.7369384766	2.76	
565.0376587	2587.0161132813	4.65	c5 (-0.17)
569.4462891	1558.2145996094	2.80	
577.8795166	3631.3381347656	6.53	
587.0357056	11033.7216796875	19.84	
601.6763916	2785.4187011719	5.00	y10o[2+] (-0.13)
602.5950928	2673.8481445313	4.80	y10*[2+] (0.29) : z10[2+] (0.29)
609.9569092	2537.6169433594	4.56	
611.1989746	4204.4379882813	7.56	y10[2+] (0.38)
616.0938721	2966.2026367188	5.33	
643.5062866	8799.7890625	15.82	
645.2532959	3151.9616699219	5.66	b11[2+] (0.52) : b6o (0.05)
648.6986084	5748.7177734375	10.33	
661.4934082	10664.0712890625	19.17	y11[2+] (0.15) : y5* (0.12) : z5 (0.12)
678.4365845	12802.630859375	23.02	a12o[2+] (0.16) : y5 (0.04) : a12*[2+] (-0.32)
679.5153809	15809.1455078125	28.43	
688.1502686	23805.568359375	42.81	
688.8763428	9592.416015625	17.25	
694.2990723	40933.7578125	73.62	
707.953125	9664.576171875	17.38	
714.8560791	4913.634765625	8.83	
720.8850098	13234.498046875	23.80	
724.5957031	6293.0693359375	11.31	
726.9064941	55601.171875	100	
728.9086914	19338.162109375	34.78	



750.3410645	7755.8198242188	13.94	
751.4329834	1451.1925048828	2.61	a13[2+] (-0.36)
767.5726318	6214.2973632813	11.17	
773.2181396	3227.6496582031	5.80	b7o (-0.07)
776.5163574	3011.7172851563	5.41	y6* (0.12) : z6 (0.12)
779.5775146	2116.4990234375	3.80	
780.5419922	2336.337890625	4.20	a14[2+] (0.23)
782.3096924	8595.703125	15.45	
801.6512451	5939.615234375	10.68	
810.5582275	7364.1748046875	13.24	y14-98[2+] (0.13)
811.3189697	1023.8767089844	1.84	
812.3487549	991.8327026367	1.78	
819.9265137	862.731262207	1.55	
832.4106445	3753.7995605469	6.75	y7o (-0.02)
850.3981934	33304.3359375	59.89	y14o[2+] (-0.00) : y7 (-0.04) : y14*[2+] (-0.50) : z14[2+] (-0.50)
851.4431152	13633.482421875	24.52	y14*[2+] (0.54) : z14[2+] (0.54) : b15[2+] (-0.37)
859.2803955	11380.5029296875	20.46	y14[2+] (-0.13)
860.1158447	5848.4189453125	10.51	c15[2+] (-0.21)
867.6484375	4433.603515625	7.97	y15-98[2+] (-0.28)
868.5350342	4460.7094726563	8.02	
881.6323242	1874.1215820313	3.37	
883.1094971	1757.6398925781	3.16	
916.6154785	6558.7280273438	11.79	b16o[2+] (0.26) : b16*[2+] (-0.22) : y15[2+] (-0.31)
917.4641113	7009.8344726563	12.60	y15[2+] (0.53)
923.701416	5219.2822265625	9.38	
925.4393311	4067.849609375	7.31	b16[2+] (0.08)
931.6357422	5846.3046875	10.51	
932.7960205	4748.9443359375	8.54	y16-98[2+] (0.34)
961.4696045	5404.1005859375	9.71	b9-98 (0.10) : y8o (-0.00)
979.4541016	21972.0859375	39.51	y8 (-0.03)
980.4692383	11881.24609375	21.36	
981.654541	9188.76171875	16.52	y16[2+] (0.20)
990.0927734	8347.423828125	15.01	y17-98[2+] (0.12)
991.1417236	6263.9169921875	11.26	c17[2+] (-0.23)
999.659668	2103.5739746094	3.78	
1013.175781	2878.8208007813	5.17	a9o (-0.17)
1031.714844	4795.759765625	8.62	a9 (0.35)
1039.268799	6214.6123046875	11.17	y17[2+] (0.30)
1040.697144	8162.7490234375	14.68	y18-98[2+] (0.20)
1045.761597	3463.6518554688	6.22	
1046.719604	2465.8344726563	4.43	b18[2+] (-0.19)
1062.23999	5957.4536132813	10.71	b10-98 (-0.17)

1063.000854	3567.9812011719,	6.41	b10-98 (0.58)
1080.865234	1783.0874023438,	3.20	a19o[2+] (0.41) : y18o[2+] (0.38) : a19*[2+] (-0.08) : y18*[2+] (-0.10) : z18[2+] (-0.10)
1089.823364	6893.3447265625,	12.39	a19[2+] (0.36) : y18[2+] (0.33)
1090.648315	1729.0241699219,	3.10	
1092.535034	7909.5966796875,	14.22	y9 (-0.03)
1093.514526	4765.3344726563,	8.57	
1094.380005	2362.0949707031,	4.24	b19o[2+] (-0.07) : b19*[2+] (-0.56)
1112.612549	679.0979614258,	1.22	
1127.02417	938.2778930664,	1.68	
1128.579468	653.1906738281,	1.17	
1146.324585	1603.5051269531,	2.88	
1147.503906	1270.75390625,	2.28	y19[2+] (0.50)
1154.477783	645.1929321289,	1.16	
1172.467041	1453.6684570313,	2.61	
1173.457764	2450.9851074219,	4.40	
1186.58667	655.4829101563,	1.17	
1203.620117	1497.8070068359,	2.69	y10* (0.01) : z10 (0.01)
1215.69165	574.198425293,	1.03	
1216.639893	692.3986816406,	1.24	
1245.207153	581.0895996094,	1.04	
1284.410156	661.1965942383,	1.18	
1285.521118	1867.4453125,	3.35	
1286.311279	1264.1208496094,	2.27	
1288.540771	1879.2366943359,	3.37	b11 (0.08)

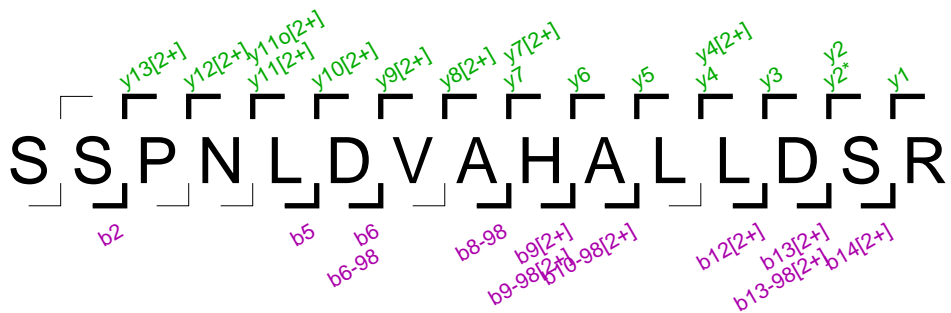
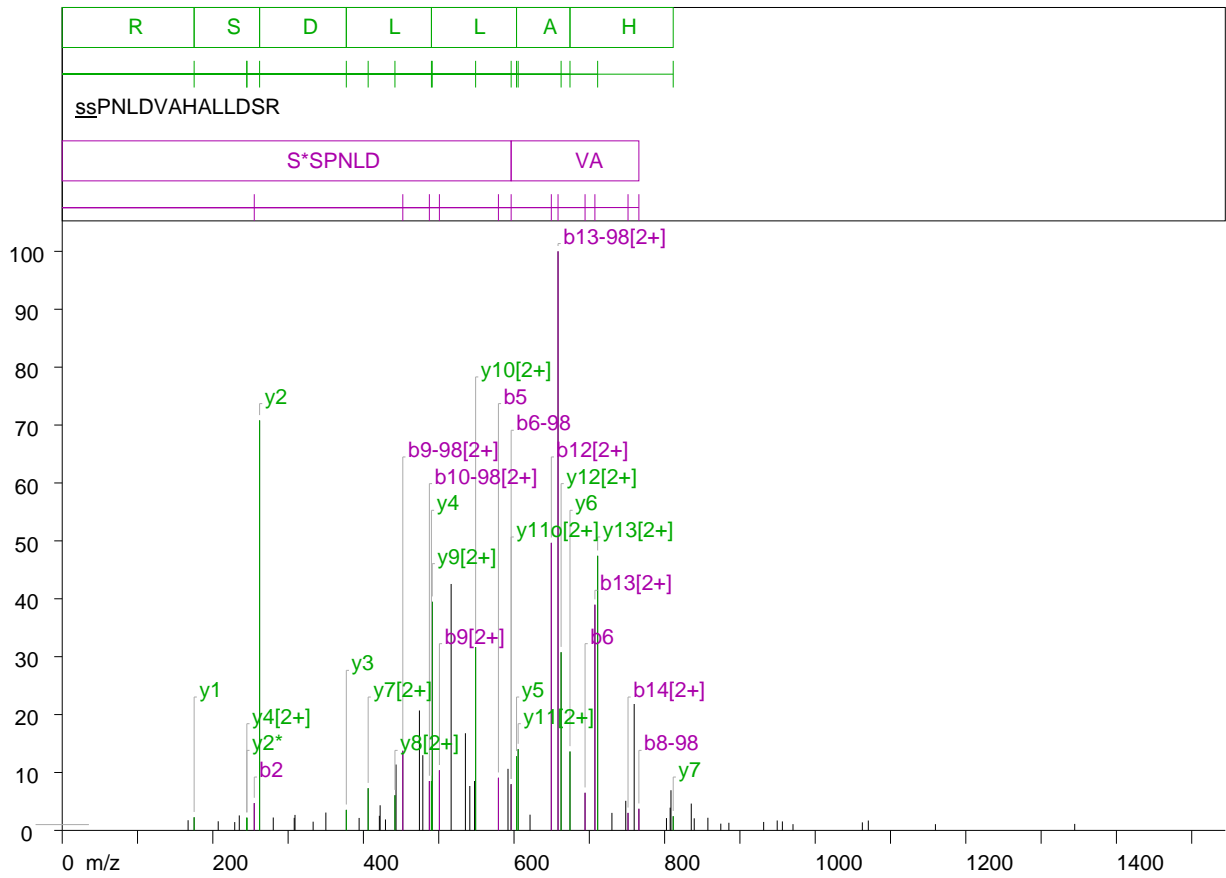
S1087

or

S1088

# ProPhosSI MS/MS report

Mass: 558.934875488281 Charge: 3+



## Cav3.2 Rat

(34) 1087 [ssPNLDVAHALLSR 1101 1673.777 \(0.0037\) Da](#)

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
1 or 2	(1087 or 1088)	Phospho (ST)	b6-98, b8-98, b9-98[2+]

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	5 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	b6-98, b8-98, b9-98[2+] support phosphorylation at position 1 or 2
Four Sequential b or y ions	1/1	Sequence of four y ions found from y1 to y4.
Five of six sequential ions present	1/1	Five of Six ions found between y0 and y5 Five of Six ions found between y1 and y6 Five of Six ions found between y2 and y7 Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13 Five of Six ions found between y9 and y14
Proline directed fragmentation pattern	1/1	NOTE: S-P is a low abundance fragmentation. PASS: y13> y12 with ratio 1.54 No proline ions at b3-98
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	9/6	ion 1 (mass: 658.4641113: intensity: 39516.67578125) assigned 2 times ion 2 (mass: 262.1118774: intensity: 27977.39453125) assigned 1 times ion 3 (mass: 649.5144043: intensity: 19623.23828125) assigned 2 times ion 4 (mass: 711.0540771: intensity: 18739.095703125) assigned 2 times ion 5 (mass: 516.4977417: intensity: 16816.513671875) assigned 0 times ion 6 (mass: 491.3848572: intensity: 15602.033203125) assigned 1 times ion 7 (mass: 707.4031982: intensity: 15402.78125) assigned 1 times ion 8 (mass: 548.9962769: intensity: 12511.3466796875) assigned 1 times ion 9 (mass: 662.5339355: intensity: 12158.35546875) assigned 1 times ion 10 (mass: 759.5697021: intensity: 8625.525390625) assigned 1 times

### Ion Table

33 ions assigned of 53 ions above threshold (62%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
S	1	88.039	71.013	-	70.029
s	2	255.038 255.0193481 (4)	238.011	157.052	237.027
P	3	352.090	335.064	254.105	334.080
N	4	466.133	449.107	368.147	448.123
L	5	579.217 *579.2989502 (9)	562.191	481.232	561.207
D	6	694.244 694.3200684 (6)	677.218	596.259 *596.1719971 (7)	676.234
V	7	793.313	776.286	695.327	775.302
A	8	864.350	847.323	766.364 *765.8105469 (3)	846.339
H	9	1001.409 500.9076538 [2+] (10)	984.382	903.423 452.3141174 [2+] (13)	983.398
A	10	1072.446	1055.419	974.460 *487.5833435 [2+] (8)	1054.435
L	11	1185.530	1168.504	1087.544	1167.519
L	12	1298.614 *649.5144043 [2+] (49)	1281.588	1200.628	1280.604
D	13	1413.641 707.4031982 [2+] (38)	1396.615	1315.655 *658.4641113 [2+] (100)	1395.631
S	14	1500.673 751.4056396 [2+] (3)	1483.647	1402.687	1482.663
R	15	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
S	15	-	-	-	-
s	14	1587.753	1570.726	1489.767	1569.742
P	13	1420.754 *711.0540771 [2+] (47)	1403.728	-	1402.744
N	12	1323.702 662.5339355 [2+] (30)	1306.675	-	1305.691
L	11	1209.659 605.4827271 [2+] (14)	1192.632	-	1191.648 *596.1719971 [2+] (7)
D	10	1096.575 548.9962769 [2+] (31)	1079.548	-	1078.564
V	9	981.548 491.3848572 [2+] (39)	964.521	-	963.537
A	8	882.479 441.8600769 [2+] (6)	865.453	-	864.469
H	7	811.442 811.4112549 (2) 406.2906189 [2+] (7)	794.416	-	793.432
A	6	674.383 674.3331299 (13)	657.357	-	656.373
L	5	603.346 603.34021 (12)	586.320	-	585.336
L	4	490.262 490.2930908 (8) *245.1826172 [2+] (2)	473.236	-	472.251
D	3	377.178 377.2614746 (3)	360.151	-	359.167
S	2	262.151 262.1118774 (70)	245.124 *245.1826172 (2)	-	244.140

R	1	175.119 175.1785431 (2)	158.092	-	157.108
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### Ion distribution

Threshold	Ion count	Matches	% matched
0	106	45	42
0.5	90	41	45
1	68	36	52
2	53	33	62
3	40	28	70
4	34	25	73
5	31	24	77
10	20	15	75

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
167.1596069	693.8079833984 <sub>3</sub>	1.75	b3o[2+] (-0.38)
175.1785431	893.7856445313 <sub>3</sub>	2.26	y1 (0.05)
207.1580505	622.6768798828 <sub>3</sub>	1.57	
229.0918579	566.4796142578 <sub>3</sub>	1.43	
235.130249	1021.4099121094 <sub>3</sub>	2.58	
245.1826172	865.4766235352 <sub>3</sub>	2.19	z2 (0.05) : y2* (0.05) : y4[2+] (-0.45)
255.0193481	1861.2265625 <sub>3</sub>	4.70	b2 (-0.01)
262.1118774	27977.39453125 <sub>3</sub>	70.79	y2 (-0.03)
280.2444458	879.6969604492 <sub>3</sub>	2.22	
308.098999	855.6200561523 <sub>3</sub>	2.16	
309.1115112	1056.8243408203 <sub>3</sub>	2.67	
333.2046509	594.9755859375 <sub>3</sub>	1.50	a6[2+] (-0.42)
350.1237183	1217.6734619141 <sub>3</sub>	3.08	
377.2614746	1401.7498779297 <sub>3</sub>	3.54	y3 (0.08)
394.2868958	850.4694824219 <sub>3</sub>	2.15	
406.2906189	2877.7055664063 <sub>3</sub>	7.28	y7[2+] (0.06)
421.1526794	995.5368652344 <sub>3</sub>	2.51	a4* (0.04)
422.2046204	1713.8237304688 <sub>3</sub>	4.33	
429.2610779	746.5391845703 <sub>3</sub>	1.88	
441.8600769	2398.0634765625 <sub>3</sub>	6.06	y8[2+] (0.11)
443.309845	4495.8779296875 <sub>3</sub>	11.37	
452.3141174	5432.6811523438 <sub>3</sub>	13.74	b9-98[2+] (0.09)
474.3661804	8183.7109375 <sub>3</sub>	20.70	
478.8791504	5132.1474609375 <sub>3</sub>	12.98	a9*[2+] (0.18)
487.5833435	3365.26953125 <sub>3</sub>	8.51	a9[2+] (0.37) : b10-98[2+] (-0.15)
490.2930908	3372.8647460938 <sub>3</sub>	8.53	y4 (0.03)

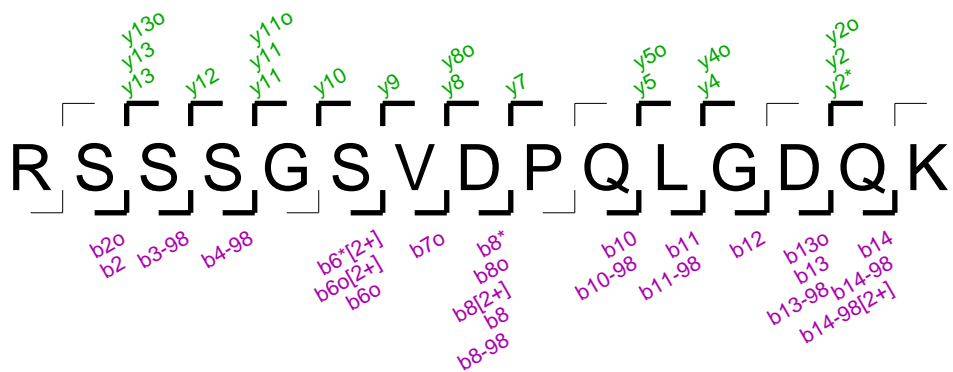
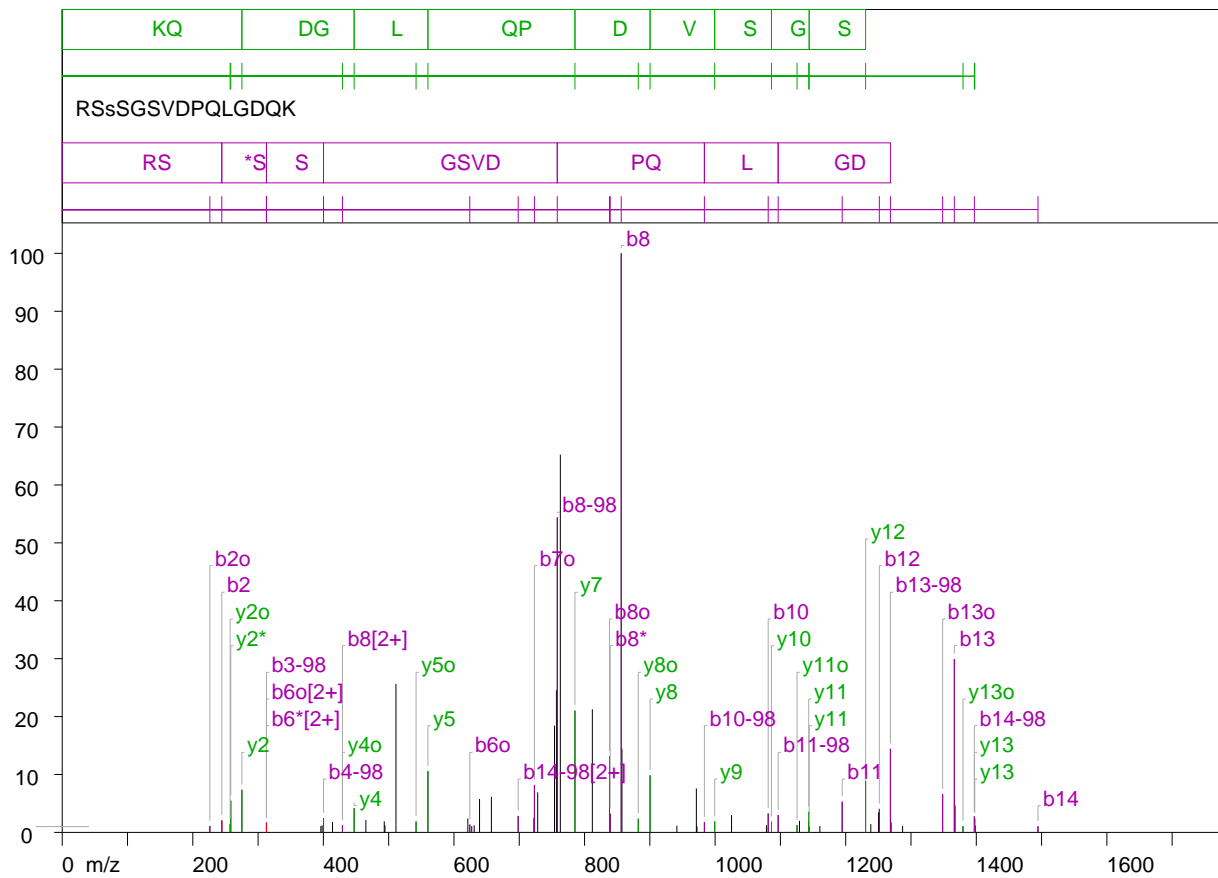
491.3848572	15602.033203125,	39.48	y9[2+] (0.10)
500.9076538	4097.392578125,	10.36	b9[2+] (-0.30)
516.4977417	16816.513671875,	42.55	
535.4487915	6630.6298828125,	16.77	
541.288269	3030.318359375,	7.66	
547.5808105	3370.9365234375,	8.53	
548.9962769	12511.3466796875,	31.66	y10[2+] (0.20)
579.2989502	3589.7546386719,	9.08	b5 (0.08) : a11[2+] (0.02)
591.9909668	4201.6831054688,	10.63	
596.1719971	3149.162109375,	7.96	c5 (-0.07) : b6-98 (-0.08) : y11o[2+] (-0.15)
603.34021	5050.7993164063,	12.78	y5 (-0.00)
605.4827271	5544.5751953125,	14.03	y11[2+] (0.14)
621.2746582	1073.3537597656,	2.71	
649.5144043	19623.23828125,	49.65	a6* (0.29) : b12[2+] (-0.29)
658.4641113	39516.67578125,	100	c12[2+] (0.13) : b13-98[2+] (0.13)
662.5339355	12158.35546875,	30.76	y12[2+] (0.17)
674.3331299	5382.78515625,	13.62	y6 (-0.05)
694.3200684	2566.9106445313,	6.49	b6 (0.07)
707.4031982	15402.78125,	38.97	b13[2+] (0.07)
711.0540771	18739.095703125,	47.42	y13[2+] (0.17) : c6 (-0.21)
730.0187988	1195.9942626953,	3.02	
748.3735352	2019.1495361328,	5.10	a7* (0.08)
751.4056396	1194.3245849609,	3.02	b14[2+] (0.56)
759.5697021	8625.525390625,	21.82	c14[2+] (0.21)
765.8105469	1475.078125,	3.73	a7 (0.49) : b8-98 (-0.55)
802.4560547	840.2169189453,	2.12	
807.3773193	1552.0040283203,	3.92	
808.4294434	2741.0615234375,	6.93	x14[2+] (0.05)
811.4112549	964.5718994141,	2.44	y7 (-0.03)
835.3955078	1830.4609375,	4.63	
839.3262939	824.6988525391,	2.08	x7 (-0.11)
857.4379883	862.6449584961,	2.18	
874.5823975	459.7014770508,	1.16	
885.3289795	519.8120727539,	1.31	
931.5186768	576.5516357422,	1.45	
949.5180664	675.8471679688,	1.71	
956.3990479	612.3174438477,	1.54	a9* (0.01)
970.47229	425.8800354004,	1.07	
1062.589722	548.4889526367,	1.38	
1070.519043	672.7462768555,	1.70	
1159.650879	426.2090148926,	1.07	
1344.612305	442.6635437012,	1.12	



**S1104**

# ProPhosSI MS/MS report

Mass: 820.867717 Charge: 2+



## Cav3.2 Rat

(73) 1102 RSsSGSVDPQLGDQK 1116 1639.720 (-0.0005) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(1104)	Phospho (ST)	b2 => b3-98; y12

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	7 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b2 to b3-98 support unique phosphorylation at position 3  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y7 to y10.
Five of six sequential ions present	1/1	Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13
Proline directed fragmentation pattern	2/2	PASS: y7> y6  PASS: b9-98< b8-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 856.197: intensity: 4526.84) assigned 1 times ion 2 (mass: 762.920: intensity: 2953.19) assigned 0 times ion 3 (mass: 758.204: intensity: 2462.35) assigned 2 times ion 4 (mass: 1366.384: intensity: 1355.72) assigned 1 times ion 5 (mass: 511.157: intensity: 1161.18) assigned 0 times ion 6 (mass: 756.957: intensity: 1110.94) assigned 1 times ion 7 (mass: 811.927: intensity: 963.19) assigned 0 times ion 8 (mass: 785.301: intensity: 952.04) assigned 1 times ion 9 (mass: 753.976: intensity: 834.64) assigned 0 times ion 10 (mass: 857.288: intensity: 653.76) assigned 0 times

### Ion Table

41 ions assigned of 71 ions above threshold (57%).

#### N-terminal ions

AA	N-ion	b	b*	b-98	bo
R	1	157.108	140.082	-	139.098
S	2	244.140 244.397 (2)	227.114	-	226.130 *226.119 (1)
s	3	411.139	394.112	313.153 *312.824 (1)	393.128
S	4	498.171	481.144	400.185	480.160

-	-	-	-	400.199 (2)	-
G	5	555.192	538.166	457.206	537.182
S	6	642.224	625.198 *312.824 [2+] (1)	544.238	624.214 *312.824 [2+] (1) 624.214 (1)
V	7	741.293	724.266	643.307	723.282 723.214 (8)
D	8	856.320 *429.202 [2+] (1) 856.197 (100)	839.293 839.292 (3)	758.334 *758.204 (54)	838.309 838.189 (13)
P	9	953.372	936.346	855.387	935.362
Q	10	1081.431 1081.286 (3)	1064.405	983.445 983.553 (1)	1063.420
L	11	1194.515 1194.603 (5)	1177.489	1096.529 1096.565 (3)	1176.505
G	12	1251.537 1251.502 (4)	1234.510	1153.551	1233.526
D	13	1366.564 1366.384 (29)	1349.537	1268.578 *1268.445 (14)	1348.553 1348.500 (6)
Q	14	1494.622 1494.480 (1)	1477.596	1396.636 *1397.048 (2) 698.374 [2+] (2)	1476.612
K	15	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
R	15	-	-	-	-
S	14	1484.627	1467.600	1386.641	1466.616
s	13	1397.595 1397.665 (2) *1397.048 (2)	1380.568	1299.609	1379.584 1379.654 (1)
S	12	1230.596 1230.465 (8)	1213.570	-	1212.586
G	11	1143.564 1144.052 (1) 1143.389 (3)	1126.538	-	1125.554 1125.492 (1)
S	10	1086.543 1086.295 (1)	1069.516	-	1068.532
V	9	999.511 999.320 (1)	982.484	-	981.500
D	8	900.442 900.393 (9)	883.416	-	882.432 882.265 (2)
P	7	785.415 785.301 (21)	768.389	-	767.405
Q	6	688.363	671.336	-	670.352
L	5	560.304 560.118 (10)	543.277	-	542.293 541.936 (1)
G	4	447.220 447.141 (4)	430.193	-	429.209 *429.202 (1)
D	3	390.198	373.172	-	372.188
Q	2	275.171 275.172 (7)	258.145 *258.165 (5)	-	257.161 257.173 (1)
K	1	147.113	130.086	-	129.102

### Ion distribution

Threshold	Ion count	Matches	% matched
0	79	45	56
0.5	75	44	58
1	70	40	57
2	42	28	66
3	31	20	64
4	27	17	62
5	24	15	62
10	13	8	61

### Observed ions > 1%

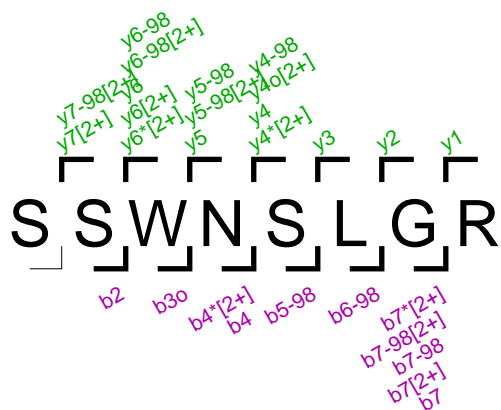
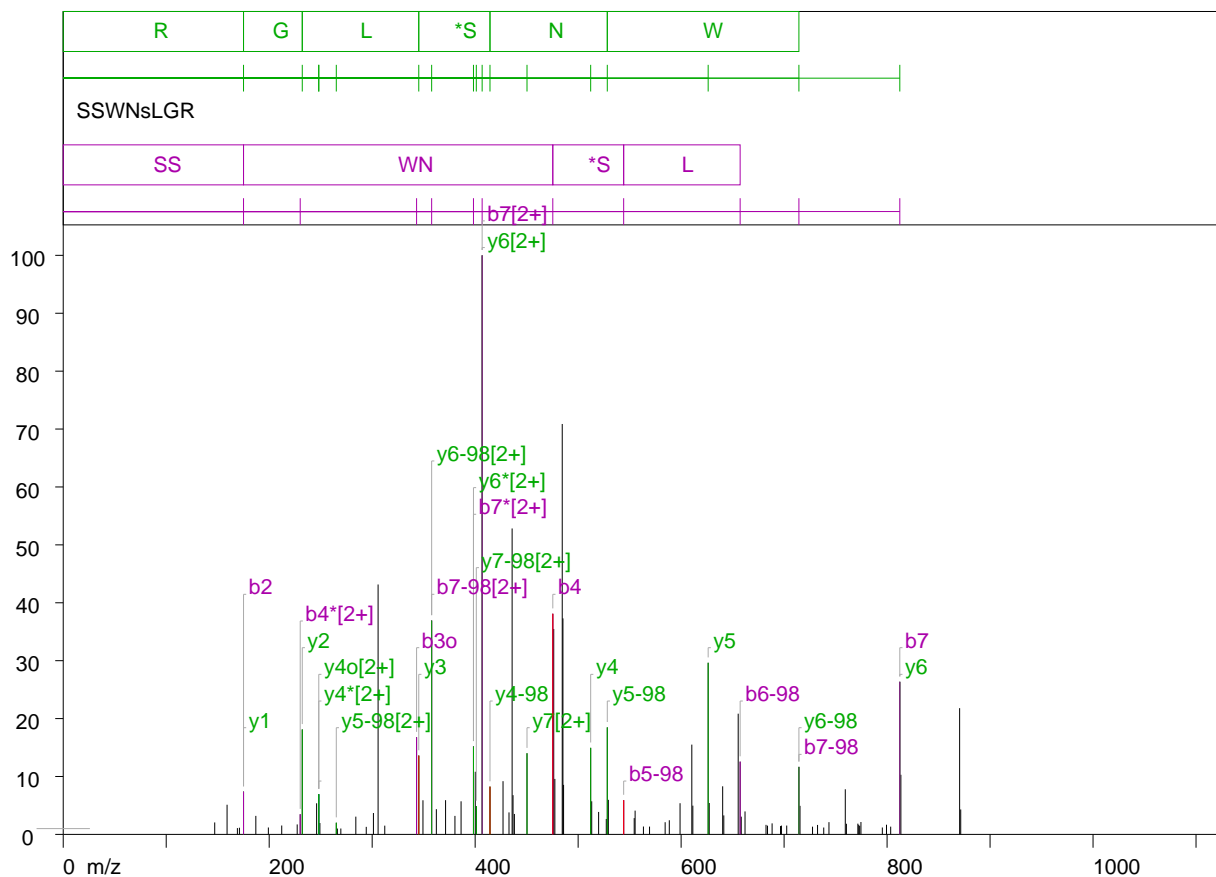
m/z	Intensity	% max	Assignment (delta)
226.119	50.33 <sub>,</sub>	1.11	b2o (-0.01) : a4o[2+] (-0.46)
244.397	93.49 <sub>,</sub>	2.06	b2 (0.25)
257.173	66.37 <sub>,</sub>	1.46	y2o (0.01)
258.165	248.04 <sub>,</sub>	5.47	c4[2+] (0.06) : y2* (0.01) : z2 (0.01)
275.172	333.11 <sub>,</sub>	7.35	y2 (6.49)
312.824	75.54 <sub>,</sub>	1.66	b6o[2+] (0.21) : b6*[2+] (-0.27) : b3-98 (-0.32)
396.126	49.97 <sub>,</sub>	1.10	
398.031	54.45 <sub>,</sub>	1.20	
400.199	111.79 <sub>,</sub>	2.46	b4-98 (0.01)
413.994	82.15 <sub>,</sub>	1.81	
429.202	56.24 <sub>,</sub>	1.24	b8[2+] (0.53) : y4o (-0.00)
447.141	190.06 <sub>,</sub>	4.19	y4 (-0.07)
465.056	98.26 <sub>,</sub>	2.17	x8[2+] (0.33)
493.217	87.02 <sub>,</sub>	1.92	
494.289	56.19 <sub>,</sub>	1.24	
511.157	1161.18 <sub>,</sub>	25.65	
541.936	85.41 <sub>,</sub>	1.88	y5o (-0.35)
560.118	479.62 <sub>,</sub>	10.59	y5 (-0.18)
621.259	109.33 <sub>,</sub>	2.41	
624.214	61.62 <sub>,</sub>	1.36	b6o (-0.00)
627.227	49.10 <sub>,</sub>	1.08	
630.988	55.84 <sub>,</sub>	1.23	
639.154	261.22 <sub>,</sub>	5.77	
657.306	278.10 <sub>,</sub>	6.14	
698.374	128.39 <sub>,</sub>	2.83	b14-98[2+] (-0.44)
722.437	112.04 <sub>,</sub>	2.47	
723.214	371.05 <sub>,</sub>	8.19	b7o (-0.06)
728.212	313.19 <sub>,</sub>	6.91	
753.976	834.64 <sub>,</sub>	18.43	
756.957	1110.94 <sub>,</sub>	24.54	x14[2+] (0.14)

758.204	2462.35,	54.39	c7 (-0.11) : b8-98 (-0.13)
762.920	2953.19,	65.23	
785.301	952.04,	21.03	y7 (-0.11)
811.927	963.19,	21.27	
838.189	595.94,	13.16	b8o (-0.12)
839.292	145.62,	3.21	b8* (-0.00)
856.197	4526.84,	100	b8 (-0.12)
857.288	653.76,	14.44	
882.265	107.33,	2.37	y8o (-0.16)
900.393	445.65,	9.84	y8 (-0.04)
941.418	52.34,	1.15	
971.253	343.69,	7.59	
972.144	46.78,	1.03	
983.553	80.12,	1.76	b10-98 (0.10)
999.320	85.88,	1.89	y9 (-0.19)
1025.163	135.14,	2.98	
1078.667	55.77,	1.23	
1081.286	148.17,	3.27	b10 (-0.14)
1086.295	83.83,	1.85	y10 (-0.24)
1096.565	135.82,	3.00	b11-98 (0.03)
1125.492	58.43,	1.29	y11o (-0.06)
1129.252	89.43,	1.97	
1143.389	160.99,	3.55	y11 (-0.17)
1160.400	49.61,	1.09	
1194.603	240.14,	5.30	b11 (0.08)
1230.465	404.03,	8.92	y12 (-0.13)
1238.422	64.95,	1.43	
1250.269	156.63,	3.46	
1251.502	183.81,	4.06	b12 (-0.03)
1268.445	653.33,	14.43	c12 (-0.11) : b13-98 (-0.13)
1269.593	78.71,	1.73	
1287.135	50.60,	1.11	
1348.500	297.87,	6.58	b13o (-0.05)
1366.384	1355.72,	29.94	b13 (-0.18)
1367.479	210.86,	4.65	
1379.654	49.48,	1.09	y13o (0.06)
1397.048	124.99,	2.76	b14-98 (0.41) : y13 (-0.54)
1397.665	109.24,	2.41	y13 (0.06)
1398.353	53.55,	1.18	
1494.480	48.03,	1.06	b14 (-0.14)

S1144

# ProPhosSI MS/MS report

Mass: 493.710083007813 Charge: 2+





## Cav3.2 Rat

(34) 1140 SSWNsLGR 11477 985.401 (0.0026) Da

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
5	(1144)	Phospho (ST)	b4 => b5-98 : y3 => y4-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	7 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b4 to b5-98, transition y3 to y4-98 support unique phosphorylation at position 5  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b4 to b7-98. Sequence of four y ions found from y1 to y4-98.
Five of six sequential ions present	1/1	Five of Six ions found between b2 and b7 Five of Six ions found between y0 and y5 Five of Six ions found between y1 and y6 Five of Six ions found between y2 and y7 Five of Six ions found between y3 and y8
Proline directed fragmentation pattern	0/0	
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 406.7935181: intensity: 12458.8447265625) assigned 2 times ion 2 (mass: 484.5708313: intensity: 8830.79296875) assigned 0 times ion 3 (mass: 435.8968811: intensity: 6582.279296875) assigned 0 times ion 4 (mass: 305.74823: intensity: 5377.1171875) assigned 0 times ion 5 (mass: 475.3937683: intensity: 4747.583984375) assigned 1 times ion 6 (mass: 485.2358398: intensity: 4647.958984375) assigned 0 times ion 7 (mass: 357.7511292: intensity: 4602.5473632813) assigned 2 times ion 8 (mass: 476.2976074: intensity: 4419.6665039063) assigned 0 times ion 9 (mass: 626.2683716: intensity: 3693.0234375) assigned 1 times ion 10 (mass: 812.347168: intensity: 3283.9716796875) assigned 2 times

### Ion Table

27 ions assigned of 68 ions above threshold (39%).

#### N-terminal ions

AA	N-ion	b	b*	b-98	bo
S	1	88.039	71.013	-	70.029
S	2	175.071 *175.0774841 (7)	158.045	-	157.061
W	3	361.151	344.124	-	343.140 343.1252747 (16)
N	4	475.194	458.167	-	457.183

-	-	475.3937683 (38)	230.1134338 [2+] (3)	-	-
s	5	642.192	625.165	544.206 544.215332 (5)	624.181
L	6	755.276	738.249	657.290 657.302002 (12)	737.265
G	7	812.298 *406.7935181 [2+] (100) *812.347168 (26)	795.271 *398.356842 [2+] (15)	714.312 *357.7511292 [2+] (36) *714.3624878 (11)	794.287
R	8	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
S	8	-	-	-	-
S	7	899.377 450.3572998 [2+] (14)	882.351	801.391 401.0996399 [2+] (4)	881.367
W	6	812.345 *406.7935181 [2+] (100) *812.347168 (26)	795.319 *398.356842 [2+] (15)	714.359 *357.7511292 [2+] (36) *714.3624878 (11)	794.335
N	5	626.266 626.2683716 (29)	609.239	528.280 265.1610107 [2+] (2) 528.3162842 (18)	608.255
s	4	512.223 512.1643066 (14)	495.196 *248.1402588 [2+] (6)	414.237 414.3945923 (8)	494.212 *248.1402588 [2+] (6)
L	3	345.225 345.2528076 (13)	328.198	-	327.214
G	2	232.140 232.1189423 (18)	215.114	-	214.130
R	1	175.119 *175.0774841 (7)	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	115	34	29
0.5	106	33	31
1	95	31	32
2	68	26	38
3	60	24	40
4	49	22	44
5	43	21	48
10	24	14	58

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
147.0995789	257.2797241211,	2.06	a2 (0.02)
159.0934143	638.2085571289,	5.12	a3*[2+] (0.52)
169.1227722	135.5297393799,	1.08	
171.0978699	143.4731445313,	1.15	
175.0774841	919.4136962891,	7.37	b2 (0.00) : y1 (-0.04)
187.0346832	398.5091247559,	3.19	x3[2+] (-0.07)

199.2028809	148.6692504883,	1.19	
212.1685486	191.1918487549,	1.53	
227.1992188	214.4663391113,	1.72	
230.1134338	433.9749755859,	3.48	b4*[2+] (0.52)
232.1189423	2259.0187988281,	18.13	y2 (-0.02)
246.0389404	669.435546875,	5.37	c4[2+] (-0.57)
248.1402588	865.5777587891,	6.94	y4o[2+] (0.52) : y4*[2+] (0.03) : z4[2+] (0.03)
249.2213135	244.6913757324,	1.96	
265.1610107	251.730255127,	2.02	y5-98[2+] (0.51)
269.5724182	126.7447891235,	1.01	
284.1321411	382.0859069824,	3.06	
294.2586365	162.3819885254,	1.30	
301.2252197	459.8869934082,	3.69	
305.74823	5377.1171875,	43.15	
312.2257385	188.3913726807,	1.51	b5o[2+] (-0.36)
343.1252747	2090.9584960938,	16.78	b3o (-0.01)
345.2528076	1695.9801025391,	13.61	y3 (0.02)
349.3238831	734.3971557617,	5.89	
357.7511292	4602.5473632813,	36.94	b7-98[2+] (0.09) : y6-98[2+] (0.06)
362.3010864	542.3225708008,	4.35	
371.2740173	736.467956543,	5.91	
380.3658142	398.1807556152,	3.19	
386.320282	712.1148681641,	5.71	c6[2+] (-0.33)
398.356842	1893.2585449219,	15.19	b7*[2+] (0.21) : y6*[2+] (0.19) : z6[2+] (0.19)
400.0909119	1347.7126464844,	10.81	
401.0996399	610.5473022461,	4.90	y7-98[2+] (-0.10)
406.7935181	12458.8447265625,	100	b7[2+] (0.14) : y6[2+] (0.11)
414.3945923	1027.8082275391,	8.24	y4-98 (0.15)
427.0599365	1145.2950439453,	9.19	
432.8696899	473.2228088379,	3.79	
435.8968811	6582.279296875,	52.83	
436.7826538	843.9107055664,	6.77	
438.1077881	439.8946533203,	3.53	
450.3572998	1746.1652832031,	14.01	y7[2+] (0.16)
475.3937683	4747.583984375,	38.10	b4 (0.19)
476.2976074	4419.6665039063,	35.47	
477.3849487	1193.6473388672,	9.58	
484.5708313	8830.79296875,	70.87	
485.2358398	4647.958984375,	37.30	
485.8580322	1065.3843994141,	8.55	
512.1643066	1862.6059570313,	14.95	y4 (-0.05)
513.171814	712.4299316406,	5.71	
519.8786011	483.1166687012,	3.87	

527.3190918	331.7471008301,	2.66	
528.3162842	2303.248046875,	18.48	y5-98 (0.03)
529.3509521	743.3747558594,	5.96	
544.215332	737.1232910156,	5.91	b5-98 (0.00)
554.4386597	350.400390625,	2.81	
555.309082	511.6460571289,	4.10	
563.4083252	169.4444885254,	1.36	
569.3279419	167.7977752686,	1.34	
584.4880371	262.096496582,	2.10	
588.5112305	304.4399719238,	2.44	
598.9590454	670.8488769531,	5.38	
610.3839722	1931.7998046875,	15.50	
611.3778687	618.4312133789,	4.96	
626.2683716	3693.0234375,	29.64	y5 (0.00)
627.2883301	675.3857421875,	5.42	
640.3442993	1034.7211914063,	8.30	
641.4443359	408.5626525879,	3.27	
655.4285278	2597.0932617188,	20.84	
657.302002	1565.8092041016,	12.56	b6-98 (0.01)
658.3759155	381.7488708496,	3.06	
662.0491333	494.2594604492,	3.96	
682.4301147	205.417175293,	1.64	
683.8948364	188.1817321777,	1.51	
688.3411865	237.4278717041,	1.90	
696.5302124	179.2213745117,	1.43	
697.4085693	189.1384735107,	1.51	
702.5229492	190.3391876221,	1.52	
714.3624878	1453.0158691406,	11.66	b7-98 (0.05) : y6-98 (0.00)
715.4378662	614.4329223633,	4.93	
727.6108398	166.2453460693,	1.33	a6 (0.32)
732.4626465	203.5661621094,	1.63	
738.4777832	148.0373077393,	1.18	b6* (0.22)
743.5636597	263.396270752,	2.11	
759.4036865	971.048828125,	7.79	
760.4961548	228.7962493896,	1.83	
771.5977173	231.6029815674,	1.85	
772.4381104	207.1053924561,	1.66	c6 (0.13)
773.3793945	185.2329864502,	1.48	
774.5992432	266.2815856934,	2.13	
795.37323	148.5834197998,	1.19	b7* (0.10) : y6* (0.05) : z6 (0.05)
799.4356079	208.3207702637,	1.67	
803.5025024	166.9591827393,	1.34	
812.347168	3283.9716796875,	26.35	b7 (0.04) : y6 (0.00)

813.3743286	1282.9045410156,	10.29	
870.4435425	2716.1982421875,	21.80	
871.4953003	536.3018798828,	4.30	

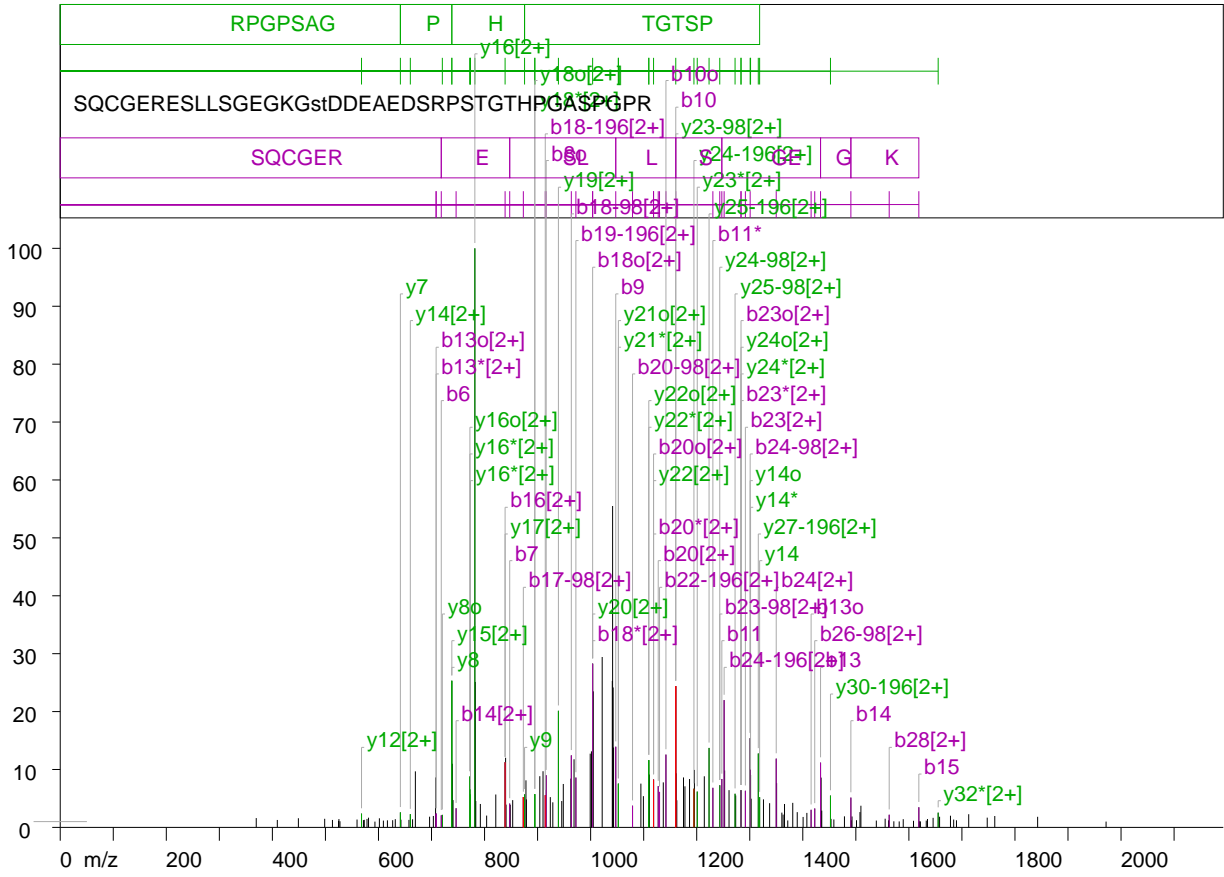
S1171

and

T1172

# ProPhosSI MS/MS report

Mass: 1065.703491210938 Charge: 4+



## Cav3.2 Rat

(36) 1155 SQCGERESLLSGEGKGstDDEAEDSRPSTGTHPGASPGPR 1194 4257.754 (1.0281) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
17	(1171)	Phospho (ST)	b16[2+] => b17-98[2+]
18	(1172)	Phospho (ST)	b17-98 [2+]=> b18-196 [2+]

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 2 phosphate ions were not found
Three -98 Ions present	1/1	10 des-phospho fragment ions were found.
Unique -98 transitions present	2/2	transition b16[2+] to b17-98[2+] and b17-98[2+] to b18-196[2+] and y19 to y25-129[2+] support phosphorylation at position 17 and 18  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b13 to b16. Sequence of four y ions found from y14 to y17.
Five of six sequential ions present	1/1	Five of Six ions found between b6 and b11 Five of Six ions found between b9 and b14 Five of Six ions found between b10 and b15 Five of Six ions found between b11 and b16 Five of Six ions found between b12 and b17 Five of Six ions found between b13 and b18 Five of Six ions found between b14 and b19 Five of Six ions found between b15 and b20 Five of Six ions found between y12 and y17 Five of Six ions found between y14 and y19 Five of Six ions found between y15 and y20 Five of Six ions found between y19 and y24 Five of Six ions found between y20 and y25 Five of Six ions found between y22 and y27
Proline directed fragmentation pattern	2/2	PASS: y14> y13  No proline ions at b27-196  PASS: y8> y7 with ratio 9.76  No proline ions at b33-196  NOTE: S-P is a low abundance fragmentation. No proline ions at y4 No proline ions at b37-196  NOTE: G-P is a low abundance fragmentation. No proline ions at y2 No proline ions at b39-196 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 781.7017822: intensity: 2547.7536621094) assigned 1 times ion 2 (mass: 1041.457642: intensity: 1414.1689453125) assigned 0 times ion 3 (mass: 1021.797607: intensity: 749.7111816406) assigned 0 times ion 4 (mass: 1003.755981: intensity: 720.337890625) assigned 3 times ion 5 (mass: 738.3172607: intensity: 645.3023681641) assigned 2 times ion 6 (mass: 1040.847046: intensity: 644.5252685547) assigned 0 times ion 7 (mass: 782.4875488: intensity: 639.9045410156) assigned 0 times



-	-	ion 8 (mass: 1160.515503: intensity: 621.7974853516) assigned 2 times ion 9 (mass: 1042.406982: intensity: 615.7111816406) assigned 0 times ion 10 (mass: 1005.060059: intensity: 598.6134033203) assigned 1 times
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## Ion Table

63 ions assigned of 116 ions above threshold (54%).

N-terminal ions

AA	N-ion	b	b*	b-196	b-98	bo
S	1	88.039	71.013	-	-	70.029
Q	2	216.098	199.071	-	-	198.087
C	3	376.129	359.102	-	-	358.118
G	4	433.150	416.124	-	-	415.139
E	5	562.193	545.166	-	-	544.182
R	6	718.294 718.4199219 (2)	701.267	-	-	700.283
E	7	847.336 *847.4304199 (4)	830.310	-	-	829.326
S	8	934.368	917.342	-	-	916.358 916.1751709 (9)
L	9	1047.452 *1047.380127 (13)	1030.426	-	-	1029.442
L	10	1160.537 *1160.515503 (24)	1143.510	-	-	1142.526 1141.973389 (12)
S	11	1247.569 1247.375977 (8)	1230.542 1230.474854 (6)	-	-	1229.558
G	12	1304.590	1287.563	-	-	1286.579
E	13	1433.633 1433.465942 (11)	1416.606 *708.6715088 [2+] (2)	-	-	1415.622 1415.682007 (3) *708.6715088 [2+] (2)
G	14	1490.654 1490.653564 (5) 746.3497314 [2+] (3)	1473.628	-	-	1472.644
K	15	1618.749 *1618.772339 (3)	1601.723	-	-	1600.739
G	16	1675.771 *838.7264404 [2+] (11)	1658.744	-	-	1657.760
s	17	1842.769	1825.742	-	1744.783 873.1268311 [2+] (5)	1824.758
t	18	2023.783	2006.756 *1003.755981 [2+] (28)	1827.811 914.4802246 [2+] (5)	1925.797 963.5715332 [2+] (12)	2005.772 *1003.755981 [2+] (28)
D	19	2138.810	2121.783	1942.838 972.1845703 [2+] (8)	2040.824	2120.799
D	20	2253.837 1127.420532 [2+] (7)	2236.810 *1118.642212 [2+] (8)	2057.865	2155.851 *1078.981934 [2+] (3)	2235.826 *1118.642212 [2+] (8)
E	21	2382.879	2365.853	2186.908	2284.893	2364.869
A	22	2453.916	2436.890	2257.945 1129.873169 [2+] (6)	2355.931	2435.906
E	23	2582.959 1291.755859 [2+] (6)	2565.933 *1283.499268 [2+] (6)	2386.987	2484.973 *1243.447998 [2+] (7)	2564.949 *1283.499268 [2+] (6)

D	24	2697.986 1349.87207 [2+] (11)	2680.959	2502.014 1251.695801 [2+] (21)	2600.000 *1300.744385 [2+] (15)	2679.975
S	25	2785.018	2767.992	2589.046	2687.032	2767.008
R	26	2941.119	2924.093	2745.147	2843.133 1422.529785 [2+] (3)	2923.109
P	27	3038.172	3021.145	2842.200	2940.186	3020.161
S	28	3125.204 1562.933838 [2+] (2)	3108.177	2929.232	3027.218	3107.193
T	29	3226.252	3209.225	3030.280	3128.266	3208.241
G	30	3283.273	3266.247	3087.301	3185.287	3265.263
T	31	3384.321	3367.294	3188.349	3286.335	3366.310
H	32	3521.380	3504.353	3325.408	3423.394	3503.369
P	33	3618.432	3601.406	3422.461	3520.447	3600.422
G	34	3675.454	3658.427	3479.482	3577.468	3657.443
A	35	3746.491	3729.465	3550.519	3648.505	3728.481
S	36	3833.523	3816.497	3637.551	3735.537	3815.513
P	37	3930.576	3913.549	3734.604	3832.590	3912.565
G	38	3987.597	3970.571	3791.626	3889.611	3969.587
P	39	4084.650	4067.624	3888.678	3986.664	4066.640
R	40	-	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-196	y-98	yo
S	40	-	-	-	-	-
Q	39	4171.730	4154.703	3975.758	4073.744	4153.719
C	38	4043.671	4026.645	3847.699	3945.685	4025.661
G	37	3883.641	3866.614	3687.669	3785.655	3865.630
E	36	3826.619	3809.593	3630.647	3728.633	3808.609
R	35	3697.576	3680.550	3501.605	3599.591	3679.566
E	34	3541.475	3524.449	3345.504	3443.489	3523.465
S	33	3412.433	3395.406	3216.461	3314.447	3394.422
L	32	3325.401	3308.374 *1655.234497 [2+] (2)	3129.429	3227.415	3307.390
L	31	3212.317	3195.290	3016.345	3114.331	3194.306
S	30	3099.233	3082.206	2903.261 1452.163208 [2+] (5)	3001.247	3081.222
G	29	3012.201	2995.174	2816.229	2914.215	2994.190
E	28	2955.179	2938.153	2759.207	2857.193	2937.169
G	27	2826.136	2809.110	2630.165 1316.102661 [2+] (12)	2728.151	2808.126
K	26	2769.115	2752.088	2573.143	2671.129	2751.104
G	25	2641.020	2623.994	2445.048 *1223.272827 [2+] (13)	2543.034 1272.28186 [2+] (5)	2623.009
s	24	2583.999	2566.972 *1283.499268 [2+] (6)	2388.027 1194.777588 [2+] (6)	2486.013 *1243.447998 [2+] (7)	2565.988 *1283.499268 [2+] (6)

t	23	2417.000	2399.974 *1200.97229 [2+] (6)	-	2319.014 *1160.515503 [2+] (24)	2398.990
D	22	2235.986 *1118.642212 [2+] (8)	2218.960 *1109.654907 [2+] (11)	-	-	2217.976 *1109.654907 [2+] (11)
D	21	2120.959	2103.933 *1052.285889 [2+] (7)	-	-	2102.949 *1052.285889 [2+] (7)
E	20	2005.932 *1003.755981 [2+] (28)	1988.906	-	-	1987.922
A	19	1876.890 939.2346191 [2+] (20)	1859.863	-	-	1858.879
E	18	1805.853	1788.826 *894.7489014 [2+] (5)	-	-	1787.842 *894.7489014 [2+] (5)
D	17	1676.810 *838.7264404 [2+] (11)	1659.784	-	-	1658.799
S	16	1561.783 781.7017822 [2+] (100)	1544.757 *772.4224854 [2+] (8) *773.4775391 [2+] (5)	-	-	1543.773 *772.4224854 [2+] (8)
R	15	1474.751 *738.3172607 [2+] (25)	1457.725	-	-	1456.741
P	14	1318.650 1318.614624 (5) 660.0480347 [2+] (2)	1301.623 *1301.525391 (9)	-	-	1300.639 *1300.744385 (15)
S	13	1221.597	1204.571	-	-	1203.587
T	12	1134.565 568.0300293 [2+] (2)	1117.539	-	-	1116.555
G	11	1033.517	1016.491	-	-	1015.507
T	10	976.496	959.469	-	-	958.485
H	9	875.448 875.4642334 (5)	858.422	-	-	857.438
P	8	738.389 *738.3172607 (25)	721.363	-	-	720.379 720.3886719 (2)
G	7	641.337 641.3174438 (2)	624.310	-	-	623.326
A	6	584.315	567.289	-	-	566.305
S	5	513.278	496.252	-	-	495.267
P	4	426.246	409.219	-	-	408.235
G	3	329.193	312.167	-	-	311.183
P	2	272.172	255.145	-	-	254.161
R	1	175.119	158.092	-	-	157.108

## Ion distribution

Threshold	Ion count	Matches	% matched
0	216	106	49
0.5	196	101	51
1	165	87	52
2	116	63	54
3	99	53	53

4	91	48	52
5	77	45	58
10	29	19	65

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
369.5786743	40.9881706238	1.60	y8[2+] (-0.12)
409.2619629	32.7162437439	1.28	y4* (0.04) : z4 (0.04)
449.0072021	40.2975616455	1.58	
498.5693359	37.8617553711	1.48	
513.2210083	32.7649307251	1.28	y5 (-0.05)
524.6817017	28.8605270386	1.13	b9[2+] (0.45)
525.4283447	36.7389602661	1.44	
527.3870239	27.0132312775	1.06	
559.5700684	34.5832672119	1.35	y12*[2+] (0.29) : z12[2+] (0.29)
568.0300293	60.6096687317	2.37	y12[2+] (0.24)
571.6634521	32.0772285461	1.25	b10o[2+] (-0.10) : b10*[2+] (-0.59)
573.2207642	33.2130661011	1.30	
578.3764648	37.2161750793	1.46	
581.2559814	42.7211494446	1.67	b10[2+] (0.48) : x12[2+] (-0.52)
601.7198486	40.0570755005	1.57	a11o[2+] (0.43) : a11*[2+] (-0.05) : y13o[2+] (-0.57)
609.2756958	29.962266922	1.17	
616.8734131	31.0524044037	1.21	
626.7789917	31.7071266174	1.24	
631.6966553	36.1863327026	1.42	
641.3174438	66.1032867432	2.59	y7 (-0.01)
642.361084	33.937412262	1.33	
657.4611206	33.078125	1.29	
660.0480347	58.1442375183	2.28	y14[2+] (0.21)
664.3019409	35.6975250244	1.40	
669.553894	246.5953521729	9.67	x7 (0.22)
696.3787842	47.0728149414	1.84	
703.4810791	50.3269958496	1.97	a13[2+] (0.15)
707.708252	219.7680664063	8.62	
708.6715088	60.9536743164	2.39	b13o[2+] (0.35) : b13*[2+] (-0.13)
718.4199219	53.0172653198	2.08	b6 (0.12)
720.3886719	55.161819458	2.16	y8o (0.00)
738.3172607	645.3023681641	25.32	y15[2+] (0.43) : y8 (-0.07)
739.3377686	280.0038757324	10.99	
740.5473633	120.1382369995	4.71	
746.3497314	84.2375411987	3.30	b14[2+] (0.51)
772.4224854	223.8941650391	8.78	y16o[2+] (0.03) : y16*[2+] (-0.45) : z16[2+] (-0.45)

773.4775391	144.1331939697	5.65	y16*[2+] (0.59) : z16[2+] (0.59)
781.7017822	2547.7536621094	100	y16[2+] (0.30)
782.4875488	639.9045410156	25.11	
783.4559326	116.0588302612	4.55	
792.0401611	103.0770568848	4.04	
803.9417725	51.997543335	2.04	
821.1912842	144.7623596191	5.68	
838.7264404	286.5685424805	11.24	b16[2+] (0.33) : y17[2+] (-0.18)
839.6625977	306.5713500977	12.03	
840.498291	100.2888793945	3.93	
847.4304199	104.8400878906	4.11	c16[2+] (0.52) : b7 (0.09)
848.4138184	99.2198181152	3.89	
853.0695801	120.0179367065	4.71	x17[2+] (0.16)
873.1268311	133.6125335693	5.24	b17-98[2+] (0.23)
875.4642334	145.1261291504	5.69	y9 (0.01)
878.0611572	207.0948486328	8.12	
878.8703613	123.0524978638	4.82	
894.7489014	146.3314361572	5.74	y18o[2+] (0.32) : y18*[2+] (-0.16) : z18[2+] (-0.16)
904.1644287	225.3229827881	8.84	
910.223877	247.1717529297	9.70	
914.4802246	141.8918304443	5.56	b18-196[2+] (0.07)
916.1751709	229.3947143555	9.00	b8o (-0.18)
923.9431152	133.2186126709	5.22	
928.6784668	110.3372650146	4.33	
939.2346191	513.0369873047	20.13	y19[2+] (0.28)
945.5325928	115.9976577759	4.55	
948.4741211	191.0686035156	7.49	
962.7911377	214.7091217041	8.42	
963.5715332	316.8715820313	12.43	b18-98[2+] (0.16)
968.729126	299.7107543945	11.76	
972.1845703	219.2107696533	8.60	b19-196[2+] (0.26)
999.1816406	324.4798278809	12.73	
1001.525757	334.6721801758	13.13	a9o (0.07)
1002.26001	322.1967773438	12.64	a9* (-0.17)
1003.755981	720.337890625	28.27	b18o[2+] (0.36) : y20[2+] (0.28) : b18*[2+] (-0.12)
1005.060059	598.6134033203	23.49	x10 (0.56)
1021.797607	749.7111816406	29.42	
1040.847046	644.5252685547	25.29	
1041.457642	1414.1689453125	55.50	
1042.406982	615.7111816406	24.16	
1043.263428	351.5051574707	13.79	
1047.380127	354.974029541	13.93	a19o[2+] (0.47) : a19*[2+] (-0.01) : b9 (-0.07)
1052.285889	192.438079834	7.55	y21o[2+] (0.30) : y21*[2+] (-0.18) : z21[2+] (-0.18)

1078.981934	95.3422698975	3.74	c19[2+] (0.55) : b20-98[2+] (0.55)
1094.756348	192.6252441406	7.56	
1099.461792	137.4661407471	5.39	
1109.654907	296.0208129883	11.61	y22o[2+] (0.16) : y22*[2+] (-0.32) : z22[2+] (-0.32)
1110.669067	232.6377563477	9.13	
1118.642212	210.5420684814	8.26	b20o[2+] (0.22) : y22[2+] (0.14) : b20*[2+] (-0.26)
1127.420532	181.510055542	7.12	b20[2+] (-0.00)
1129.873169	156.092086792	6.12	b22-196[2+] (0.39)
1136.977783	198.1386260986	7.77	
1141.973389	320.2872924805	12.57	b10o (-0.55)
1160.515503	621.7974853516	24.40	y23-98[2+] (0.50) : b10 (-0.02)
1161.433838	238.0904846191	9.34	
1162.466553	119.3053512573	4.68	x12 (-0.09)
1175.10022	219.8173522949	8.62	
1177.793457	180.795135498	7.09	c10 (0.22) : a21[2+] (-0.15)
1186.449341	212.7387695313	8.35	
1194.777588	170.2385864258	6.68	y24-196[2+] (0.26)
1195.66626	252.8531951904	9.92	
1200.97229	157.5673217773	6.18	c21[2+] (0.51) : y23*[2+] (0.48) : z23[2+] (0.48) : a11o (-0.59)
1214.317627	224.8681030273	8.82	
1223.272827	349.6664123535	13.72	x23[2+] (0.27) : y25-196[2+] (0.24)
1230.474854	174.1553344727	6.83	b11* (-0.06)
1243.447998	185.272567749	7.27	b23-98[2+] (0.45) : y24-98[2+] (-0.06)
1247.375977	212.9717712402	8.35	b11 (-0.19)
1251.695801	560.0598144531	21.98	b24-196[2+] (0.18)
1252.640869	250.5209960938	9.83	
1260.957886	163.9123077393	6.43	
1272.28186	148.0717773438	5.81	y25-98[2+] (0.26)
1273.508179	140.5074462891	5.51	
1283.499268	163.2189025879	6.40	b23o[2+] (0.52) : b23*[2+] (0.02) : y24o[2+] (0.00) : y24*[2+] (-0.49) : z24[2+] (-0.49)
1291.755859	161.1047668457	6.32	b23[2+] (-0.22)
1300.744385	392.5232543945	15.40	c23[2+] (0.24) : b24-98[2+] (0.24) : y14o (0.10)
1301.525391	230.7246246338	9.05	y14* (-0.09) : z14 (-0.09)
1302.62207	126.2678909302	4.95	
1316.102661	325.1898193359	12.76	y27-196[2+] (0.51)
1318.614624	132.799331665	5.21	y14 (-0.03)
1325.862427	123.3242263794	4.84	
1337.492188	106.5239181519	4.18	
1349.87207	302.6125488281	11.87	b24[2+] (0.37)
1350.634155	194.831237793	7.64	
1360.494019	65.0113601685	2.55	
1362.867065	56.3522758484	2.21	

1365.552856	103.0005569458,	4.04	
1371.669189	30.6346092224,	1.20	
1381.07019	108.0031356812,	4.23	
1389.536865	67.1143951416,	2.63	
1400.599731	46.0018730164,	1.80	
1407.653931	63.8105545044,	2.50	
1415.682007	77.4356536865,	3.03	b13o (0.05)
1422.529785	83.1922454834,	3.26	b26-98[2+] (0.45)
1433.465942	284.8766784668,	11.18	b13 (-0.16)
1434.525024	219.0742797852,	8.59	
1435.712891	73.7855987549,	2.89	
1452.163208	139.9197540283,	5.49	y30-196[2+] (0.02)
1453.214722	37.5549621582,	1.47	
1458.548096	34.9031639099,	1.36	
1478.536011	48.6388053894,	1.90	y28[2+] (0.44)
1490.653564	131.0817718506,	5.14	b14 (-0.00)
1491.598755	31.4389381409,	1.23	x28[2+] (-0.49)
1492.806885	48.0659942627,	1.88	
1501.280273	31.5720787048,	1.23	y30-98[2+] (0.15)
1507.776123	67.4335632324,	2.64	c14 (0.09)
1509.564575	95.3370819092,	3.74	
1538.632202	30.1083297729,	1.18	
1555.28772	38.2129669189,	1.49	
1561.705444	31.0874271393,	1.22	y16 (-0.07)
1562.933838	55.6504592896,	2.18	b28[2+] (-0.17)
1571.636475	26.8515911102,	1.05	c28[2+] (0.01)
1581.78125	26.2612075806,	1.03	
1589.352539	36.1042366028,	1.41	x16 (-0.42)
1608.740967	29.0482902527,	1.14	y33-196[2+] (0.00)
1618.772339	88.4985733032,	3.47	b15 (0.02) : a30o[2+] (-0.36)
1619.77417	26.9517936707,	1.05	a30*[2+] (0.14)
1621.759888	26.4497566223,	1.03	c29[2+] (-0.38)
1632.734497	29.9403190613,	1.17	b30o[2+] (-0.40)
1635.066528	36.866355896,	1.44	
1645.69519	42.0781288147,	1.65	
1655.234497	64.8339538574,	2.54	y32*[2+] (0.54) : z32[2+] (0.54)
1657.906616	46.9041595459,	1.84	y33-98[2+] (0.17) : b16o (0.14)
1678.418213	51.3854598999,	2.01	a31[2+] (-0.24)
1684.463867	34.5307846069,	1.35	b31*[2+] (0.31)
1689.726563	31.3115634918,	1.22	
1712.81958	57.9543457031,	2.27	
1747.689453	42.9053344727,	1.68	a32[2+] (0.49)
1761.922485	50.0779037476,	1.96	y34o[2+] (-0.31)

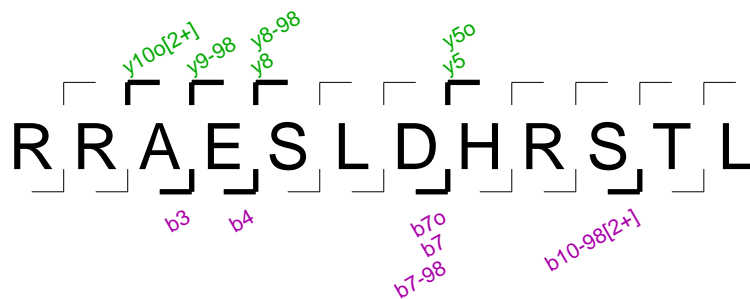
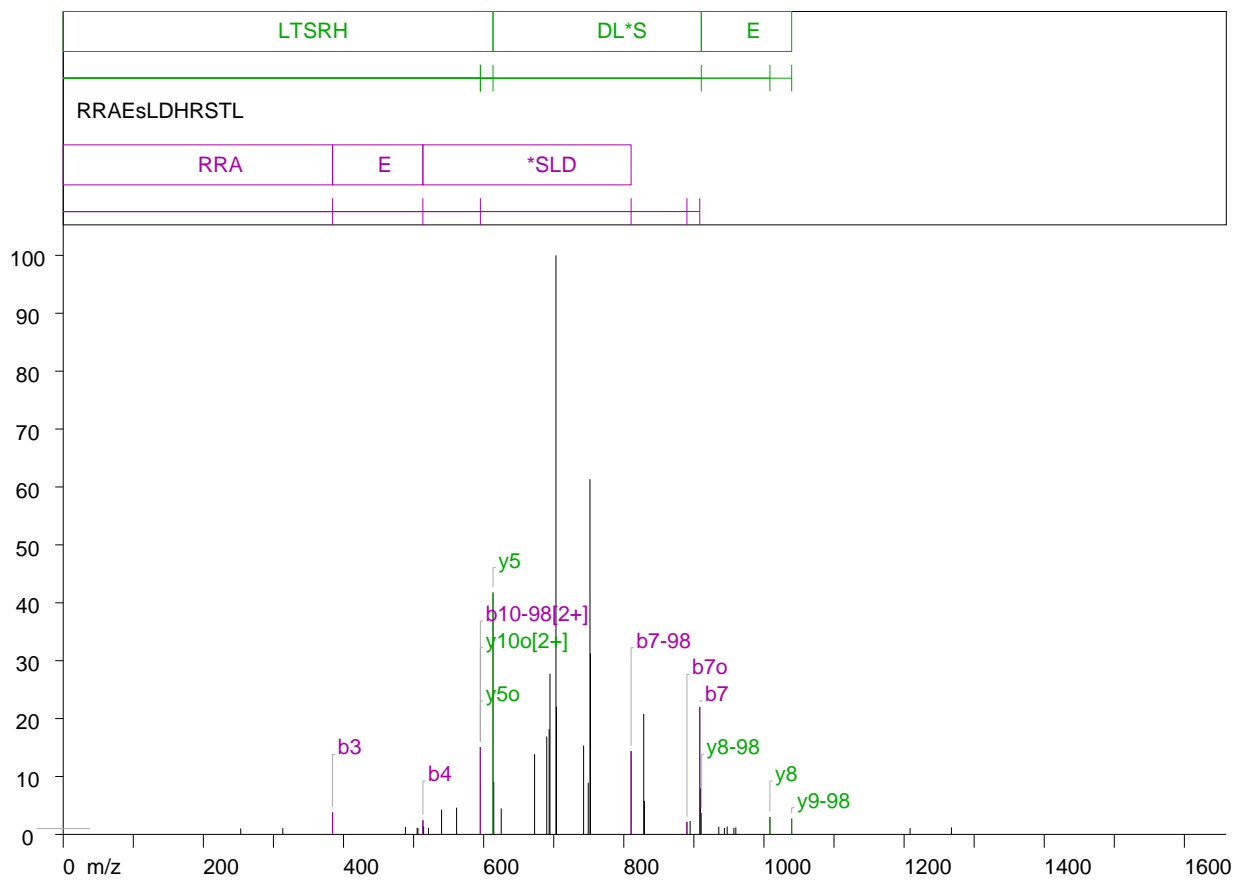
1842.729614	46.6401023865,	1.83	b17 (-0.03)
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**S1203**

# ProPhosSI MS/MS report

Mass: 760.869295 Charge: 2+



## Cav3.2 Rat

(23) 1199 RRAEsLDHRSTL 1210 1519.725 (-0.0027) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
5	(1203)	Phospho (ST)	b4=>b7-98; y5=>y9-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	4 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b4 to b7-98, transition y5 to y9-98 support unique phosphorylation at position 5  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	0/0	
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	3/6	ion 1 (mass: 703.152: intensity: 30231.90) assigned 0 times ion 2 (mass: 751.717: intensity: 18545.61) assigned 0 times ion 3 (mass: 613.351: intensity: 12628.94) assigned 1 times ion 4 (mass: 752.457: intensity: 9447.16) assigned 0 times ion 5 (mass: 694.642: intensity: 8388.25) assigned 0 times ion 6 (mass: 703.922: intensity: 6672.20) assigned 1 times ion 7 (mass: 908.422: intensity: 6658.14) assigned 1 times ion 8 (mass: 828.425: intensity: 6292.09) assigned 0 times ion 9 (mass: 693.462: intensity: 5496.28) assigned 0 times ion 10 (mass: 690.022: intensity: 5109.98) assigned 0 times

## Ion Table

12 ions assigned of 28 ions above threshold (42%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
R	1	157.108	140.082	-	139.098
R	2	313.210	296.183	-	295.199
A	3	384.247 384.397 (3)	367.220	-	366.236
E	4	513.289 513.252 (2)	496.263	-	495.279
s	5	680.288	663.261	582.302	662.277
L	6	793.372	776.345	695.386	775.361

D	7	908.399 908.422 (22)	891.372	810.413 *810.431 (14)	890.388 890.065 (2)
H	8	1045.458	1028.431	947.472	1027.447
R	9	1201.559	1184.532	1103.573	1183.548
S	10	1288.591	1271.564	1190.605 *595.337 [2+] (15)	1270.580
T	11	1389.638	1372.612	1291.652	1371.628
L	12	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
R	12	-	-	-	-
R	11	1364.632	1347.605	1266.646	1346.621
A	10	1208.531	1191.504	1110.545	1190.520 *595.337 [2+] (15)
E	9	1137.494	1120.467	1039.508 1039.561 (2)	1119.483
s	8	1008.451 1008.534 (3)	991.425	910.465 910.605 (3)	990.440
L	7	841.453	824.426	-	823.442
D	6	728.369	711.342	-	710.358
H	5	613.342 613.351 (41)	596.315	-	595.331 *595.337 (15)
R	4	476.283	459.256	-	458.272
S	3	320.182	303.155	-	302.171
T	2	233.150	216.123	-	215.139
L	1	132.102	115.075	-	114.091

### Ion distribution

Threshold	Ion count	Matches	% matched
0	73	21	28
0.5	60	20	33
1	42	17	40
2	28	12	42
3	24	9	37
4	21	6	28
5	18	6	33
10	14	6	42

### Observed ions > 1%

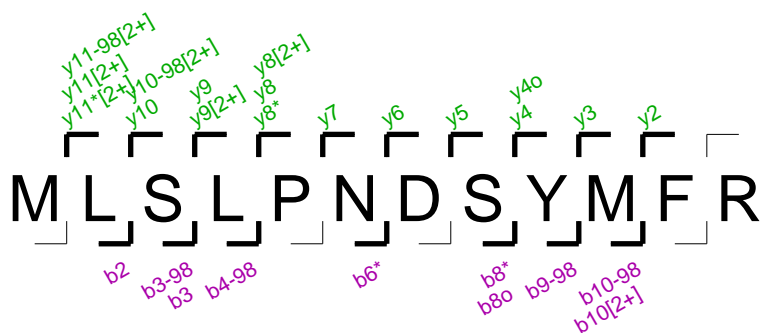
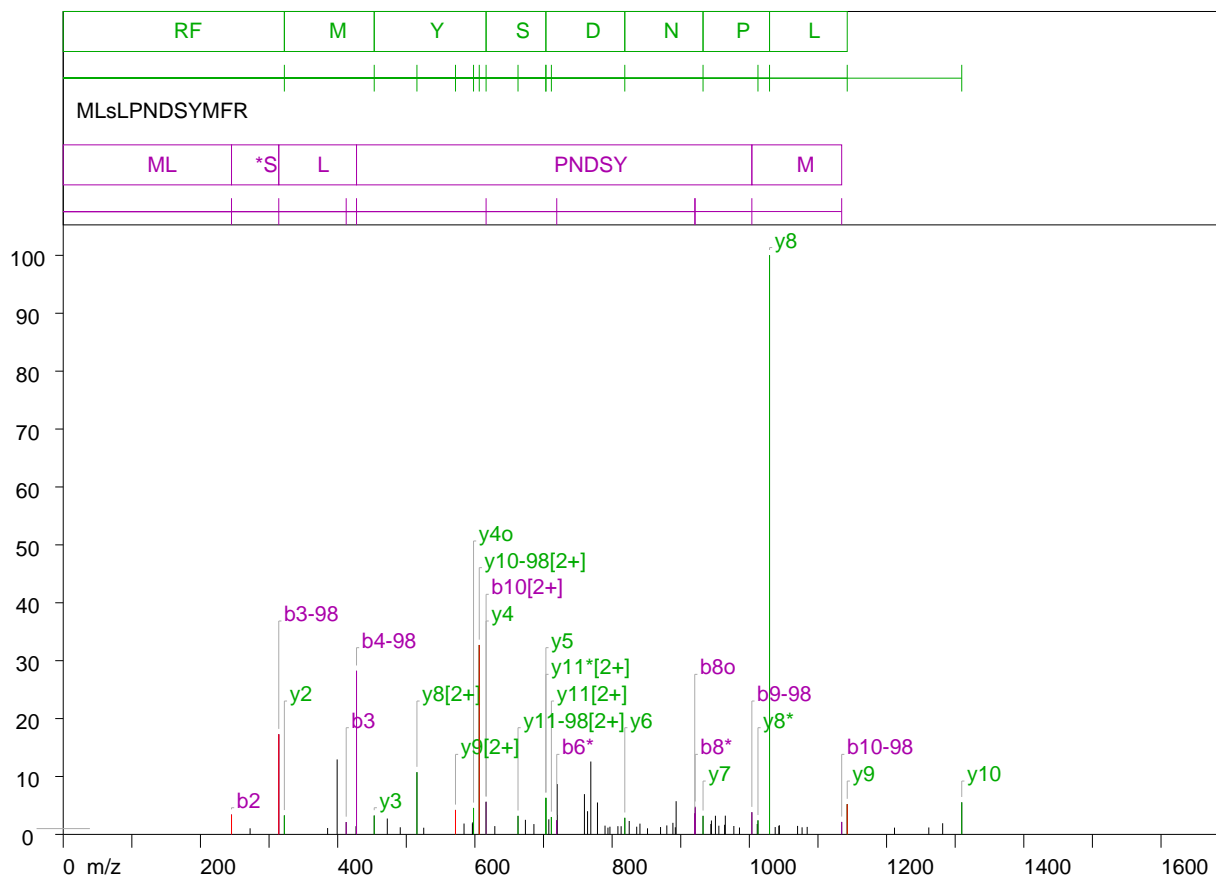
m/z	Intensity	% max	Assignment (delta)
253.265	311.63 <sub>1</sub>	1.03	
313.338	327.05 <sub>1</sub>	1.08	b2 (0.12)
384.397	1144.73 <sub>1</sub>	3.78	b3 (0.14)
488.340	388.02 <sub>1</sub>	1.28	
505.085	344.47 <sub>1</sub>	1.13	y8[2+] (0.35)

506.190	337.26,	1.11	
513.252	739.34,	2.44	b4 (-0.03)
514.331	424.07,	1.40	b8o[2+] (0.10) : b8*[2+] (-0.38)
521.265	350.02,	1.15	
539.926	1294.62,	4.28	
561.428	1395.65,	4.61	
595.337	4556.67,	15.07	y5o (0.00) : y10o[2+] (-0.42) : b10-98[2+] (-0.46)
613.351	12628.94,	41.77	y5 (0.00)
614.448	2745.72,	9.08	
625.104	1356.96,	4.48	
672.717	4188.30,	13.85	a11o[2+] (0.39) : a11*[2+] (-0.09)
690.022	5109.98,	16.90	
693.462	5496.28,	18.18	
694.642	8388.25,	27.74	
703.152	30231.90,	100	
703.922	6672.20,	22.07	c11[2+] (0.08)
742.647	4636.88,	15.33	
749.235	2697.82,	8.92	
751.717	18545.61,	61.34	
752.457	9447.16,	31.24	
810.431	4343.90,	14.36	c6 (0.03) : b7-98 (0.01)
828.425	6292.09,	20.81	
829.442	1742.83,	5.76	
890.065	653.96,	2.16	b7o (-0.32)
894.674	701.54,	2.32	
908.422	6658.14,	22.02	b7 (0.02)
909.403	2401.81,	7.94	
910.605	1109.21,	3.66	y8-98 (0.13)
935.587	398.68,	1.31	
943.547	334.82,	1.10	
947.589	412.01,	1.36	b8-98 (0.11)
957.100	341.54,	1.12	
959.851	364.97,	1.20	
1008.534	910.91,	3.01	y8 (0.08)
1039.561	824.11,	2.72	y9-98 (0.05)
1208.577	330.74,	1.09	y10 (0.04)
1267.541	365.16,	1.20	

S1927

# ProPhosSI MS/MS report

Mass: 777.333801269531 Charge: 2+



## Cav3.2 Rat

(45) 1925 MLsLPNDSYMF 1936 1552.645 (0.0063) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(1927)	Phospho (ST)	b2 => b3-98 : y9 => y10-98[2+]

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	6 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b2 to b3-98, transition y9 to y10-98[2+] support unique phosphorylation at position 3  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y2 to y5.
Five of six sequential ions present	1/1	Five of Six ions found between y1 and y6 Five of Six ions found between y2 and y7 Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12
Proline directed fragmentation pattern	2/2	PASS: y8> y7 with ratio 31.2  PASS: b5-98< b4-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	6/6	ion 1 (mass: 1029.430908: intensity: 14969.470703125) assigned 1 times ion 2 (mass: 606.3561401: intensity: 4896.9008789063) assigned 1 times ion 3 (mass: 427.4430542: intensity: 4228.7421875) assigned 1 times ion 4 (mass: 314.1543579: intensity: 2588.4716796875) assigned 1 times ion 5 (mass: 399.2314453: intensity: 1937.6481933594) assigned 0 times ion 6 (mass: 768.9203491: intensity: 1883.9006347656) assigned 0 times ion 7 (mass: 515.5028076: intensity: 1608.3044433594) assigned 1 times ion 8 (mass: 720.0646973: intensity: 1300.2141113281) assigned 0 times ion 9 (mass: 759.6327515: intensity: 1040.9221191406) assigned 0 times ion 10 (mass: 703.4667969: intensity: 944.3291625977) assigned 3 times

### Ion Table

27 ions assigned of 40 ions above threshold (67%).

#### N-terminal ions

AA	N-ion	b	b*	b-98	bo
M	1	132.048	115.021	-	114.037
L	2	245.132 245.2608032 (3)	228.105	-	227.121
s	3	412.130	395.104	314.144	394.120



-	-	*412.4208374 (2)	-	314.1543579 (17)	-
L	4	525.214	508.188	427.228 427.4430542 (28)	507.204
P	5	622.267	605.241	524.281	604.256
N	6	736.310	719.283 719.2722168 (2)	638.324	718.299
D	7	851.337	834.310	753.351	833.326
S	8	938.369	921.342 921.043396 (4)	840.383	920.358 920.4223022 (3)
Y	9	1101.432	1084.406	1003.446 1003.646362 (3)	1083.422
M	10	1232.473 *616.2994385 [2+] (5)	1215.446	1134.487 1134.570801 (2)	1214.462
F	11	1379.541	1362.515	1281.555	1361.531
R	12	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
M	12	-	-	-	-
L	11	1422.612 711.4890137 [2+] (3)	1405.586 *703.4667969 [2+] (6)	1324.626 662.836792 [2+] (3)	1404.602
s	10	1309.528 1309.532227 (5)	1292.502	1211.542 606.3561401 [2+] (32)	1291.518
L	9	1142.530 571.7236938 [2+] (4) 1142.682373 (5)	1125.503	-	1124.519
P	8	1029.446 1029.430908 (100) 515.5028076 [2+] (10)	1012.419 *1012.550232 (2)	-	1011.435
N	7	932.393 932.5213623 (3)	915.367	-	914.383
D	6	818.350 818.4660645 (2)	801.324	-	800.340
S	5	703.323 *703.4667969 (6)	686.297	-	685.313
Y	4	616.291 *616.2994385 (5)	599.265	-	598.281 598.0068359 (4)
M	3	453.228 453.2871704 (3)	436.201	-	435.217
F	2	322.187 *322.3223877 (3)	305.161	-	304.177
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	139	54	38
0.5	102	45	44
1	76	38	50
2	40	27	67
3	28	20	71
4	18	13	72
5	15	10	66

10	7	5	71
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### Observed ions > 1%

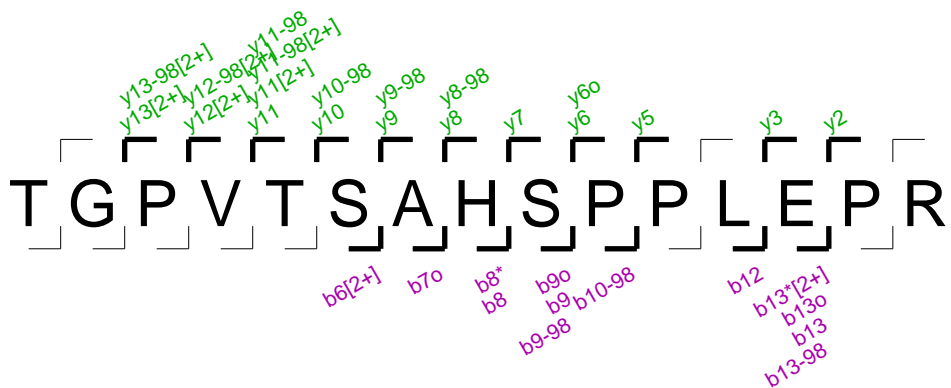
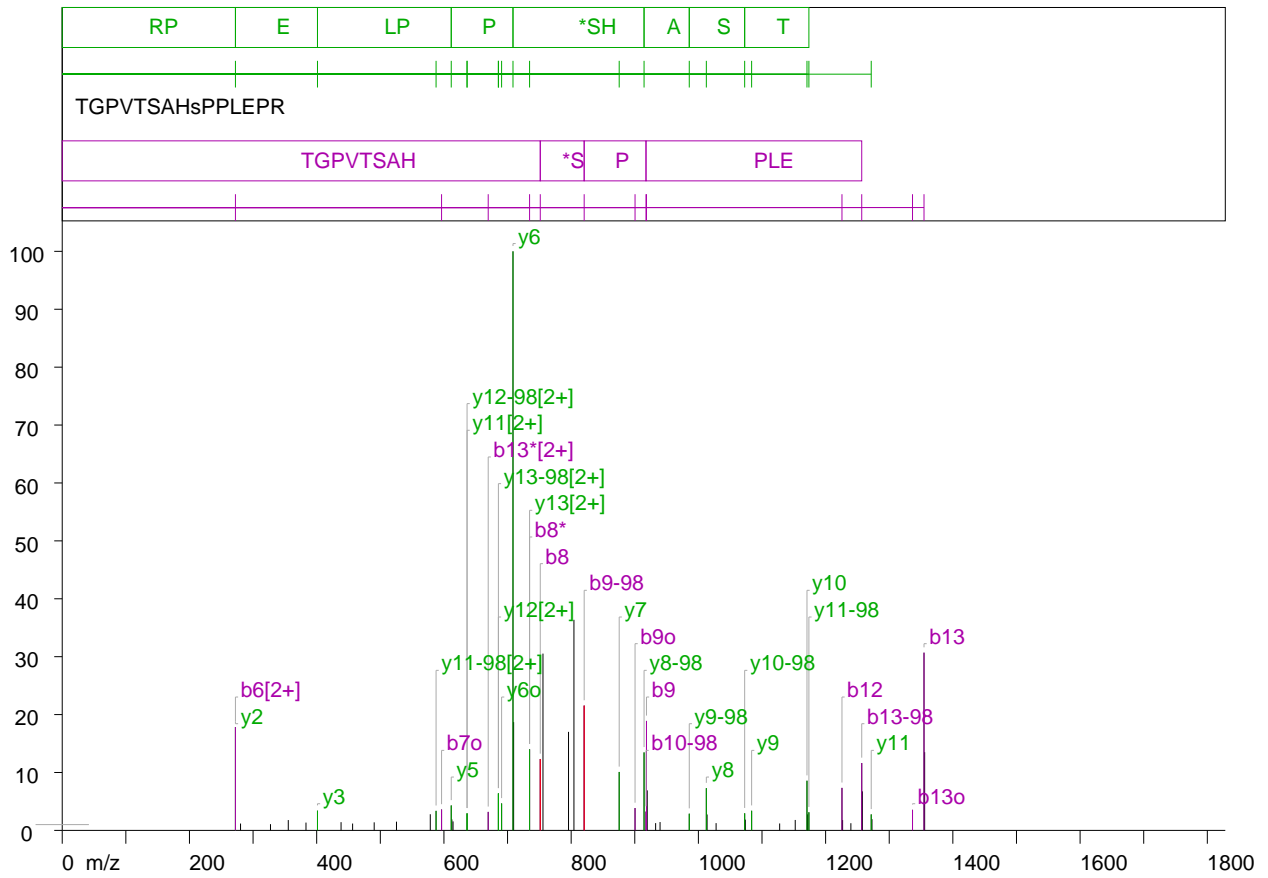
m/z	Intensity	% max	Assignment (delta)
245.2608032	509.7752685547 <sub>3</sub>	3.40	b2 (0.12)
272.3353271	157.5860443115 <sub>3</sub>	1.05	
314.1543579	2588.4716796875 <sub>3</sub>	17.29	b3-98 (0.00)
322.3223877	491.2252502441 <sub>3</sub>	3.28	y2 (0.13) : x4[2+] (-0.32)
385.326355	164.2257995605 <sub>3</sub>	1.09	
399.2314453	1937.6481933594 <sub>3</sub>	12.94	
412.4208374	319.6179199219 <sub>3</sub>	2.13	b3 (0.29) : a7[2+] (0.24)
426.7152405	212.3791351318 <sub>3</sub>	1.41	b7[2+] (0.54) : b4-98 (-0.51)
427.4430542	4228.7421875 <sub>3</sub>	28.24	b4-98 (0.21)
453.2871704	487.8203125 <sub>3</sub>	3.25	y3 (0.05)
472.3034058	410.377746582 <sub>3</sub>	2.74	
491.2266235	184.3630218506 <sub>3</sub>	1.23	
515.5028076	1608.3044433594 <sub>3</sub>	10.74	y8[2+] (0.27)
525.4046021	172.8534393311 <sub>3</sub>	1.15	b4 (0.18)
571.7236938	632.0983886719 <sub>3</sub>	4.22	y9[2+] (-0.04)
584.1470947	280.8030700684 <sub>3</sub>	1.87	
596.3467407	286.5258789063 <sub>3</sub>	1.91	
597.1629028	317.5816650391 <sub>3</sub>	2.12	
598.0068359	684.0692749023 <sub>3</sub>	4.56	y4o (-0.27)
606.3561401	4896.9008789063 <sub>3</sub>	32.71	y10-98[2+] (0.08)
616.2994385	842.1519165039 <sub>3</sub>	5.62	y4 (0.00) : b10[2+] (-0.44)
629.017334	214.1413116455 <sub>3</sub>	1.43	
662.836792	479.4100036621 <sub>3</sub>	3.20	y11-98[2+] (0.01)
673.6072388	376.8112792969 <sub>3</sub>	2.51	
686.0008545	266.6494140625 <sub>3</sub>	1.78	z5 (-0.29) : y5* (-0.29)
703.4667969	944.3291625977 <sub>3</sub>	6.30	y11*[2+] (0.16) : z11[2+] (0.16) : y5 (0.14)
707.7553101	389.7890625 <sub>3</sub>	2.60	a6 (-0.56)
711.4890137	449.9616699219 <sub>3</sub>	3.00	y11[2+] (-0.32)
719.2722168	365.241394043 <sub>3</sub>	2.43	b6* (-0.01)
720.0646973	1300.2141113281 <sub>3</sub>	8.68	
759.6327515	1040.9221191406 <sub>3</sub>	6.95	
764.1948853	599.635559082 <sub>3</sub>	4.00	
768.9203491	1883.9006347656 <sub>3</sub>	12.58	
778.6564331	824.8245239258 <sub>3</sub>	5.51	
789.6448975	226.6991271973 <sub>3</sub>	1.51	
793.9119263	174.967376709 <sub>3</sub>	1.16	
796.7960815	198.9216766357 <sub>3</sub>	1.32	
808.4279785	212.4178161621 <sub>3</sub>	1.41	

813.1437378	211.539642334,	1.41	
818.4660645	428.5729370117,	2.86	y6 (0.11)
824.8901978	346.3836364746,	2.31	
835.812439	199.1802368164,	1.33	
840.5360718	278.4684143066,	1.86	b8-98 (0.15)
851.5939331	157.0005645752,	1.04	b7 (0.25)
870.598999	190.1441040039,	1.27	
879.7311401	231.6435394287,	1.54	
888.5772095	299.2214355469,	1.99	
892.0735474	184.2808074951,	1.23	a8o (-0.29)
893.3049927	858.083190918,	5.73	a8* (-0.04)
920.4223022	541.3850097656,	3.61	b8o (0.06)
921.043396	712.9293212891,	4.76	b8* (-0.29)
932.5213623	479.6108093262,	3.20	y7 (0.12)
943.8991699	269.4629516602,	1.80	
944.7007446	359.689453125,	2.40	
950.5393066	482.0356445313,	3.22	
955.5476074	224.8406524658,	1.50	c8 (0.15)
963.9306641	248.7329406738,	1.66	
964.9552612	484.1148071289,	3.23	
977.423584	216.9875640869,	1.44	
985.6259766	177.7824707031,	1.18	
1003.646362	573.0520019531,	3.82	b9-98 (0.19)
1011.48645	269.0284423828,	1.79	y8o (0.05)
1012.550232	362.5911254883,	2.42	y8* (0.13) : z8 (0.13)
1029.430908	14969.470703125,	100	y8 (-0.01)
1037.674805	190.0495758057,	1.26	
1043	221.3274841309,	1.47	
1043.716431	236.1628112793,	1.57	
1070.281738	219.4331054688,	1.46	
1076.848755	182.9334411621,	1.22	
1084.255371	194.0590515137,	1.29	b9* (-0.15)
1134.570801	322.4671020508,	2.15	b10-98 (0.08)
1142.682373	781.8494873047,	5.22	y9 (0.15)
1211.539429	174.5746612549,	1.16	y10-98 (-0.00)
1261.53186	179.2445983887,	1.19	
1281.765747	288.3772583008,	1.92	b11-98 (0.20)
1309.532227	829.2836914063,	5.53	y10 (0.00)

S1966

# ProPhosSI MS/MS report

Mass: 813.388093 Charge: 2+



## Cav3.2 Rat

(43) 1958 TGPV TSAHsPPLEPR 1972 1624.761 (-0.0005) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
9	(1966)	Phospho (ST)	b8 => b9-98; y6=>y8-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	9 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b8 to b9-98, transition y6 to y8-98 support unique phosphorylation at position 9  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y8-98 to y11-98.
Five of six sequential ions present	1/1	Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13 Five of Six ions found between y9 and y14
Proline directed fragmentation pattern	7/7	NOTE: G-P is a low abundance fragmentation. PASS: y13-98> y12-98 with ratio 2.17  No proline ions at b3  NOTE: S-P is a low abundance fragmentation. PASS: y6> y5 with ratio 23.2  PASS: b10-98< b9-98 with ratio 6.64  NOTE: P-P is a low abundance fragmentation. PASS: y5> y4  PASS: b11-98< b10-98  PASS: y2> y1  PASS: b14-98< b13-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	6/6	ion 1 (mass: 708.578: intensity: 6585.56) assigned 1 times ion 2 (mass: 804.361: intensity: 2395.21) assigned 0 times ion 3 (mass: 1354.653: intensity: 2021.25) assigned 1 times ion 4 (mass: 755.700: intensity: 2010.76) assigned 0 times ion 5 (mass: 820.453: intensity: 1419.25) assigned 1 times ion 6 (mass: 918.408: intensity: 1244.99) assigned 1 times ion 7 (mass: 709.591: intensity: 1231.32) assigned 0 times ion 8 (mass: 272.274: intensity: 1175.40) assigned 2 times ion 9 (mass: 795.839: intensity: 1120.66) assigned 0 times ion 10 (mass: 734.643: intensity: 922.35) assigned 3 times

## Ion Table

29 ions assigned of 39 ions above threshold (74%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
T	1	102.055	85.028	-	84.044
G	2	159.076	142.050	-	141.066
P	3	256.129	239.103	-	238.119
V	4	355.198	338.171	-	337.187
T	5	456.245	439.219	-	438.235
S	6	543.277 *272.274 [2+] (17)	526.251	-	525.267
A	7	614.314	597.288	-	596.304 596.294 (3)
H	8	751.373 751.454 (12)	734.347 *734.643 (14)	-	733.363
s	9	918.372 918.408 (18)	901.345	820.386 820.453 (21)	900.361 900.404 (3)
P	10	1015.425	998.398	917.439 917.665 (3)	997.414
P	11	1112.477	1095.451	1014.491	1094.467
L	12	1225.561 1225.689 (7)	1208.535	1127.575	1207.551
E	13	1354.604 1354.653 (30)	1337.577 669.618 [2+] (3)	1256.618 1256.745 (11)	1336.593 1336.582 (3)
P	14	1451.657	1434.630	1353.671	1433.646
R	15	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
T	15	-	-	-	-
G	14	1524.721	1507.694	1426.735	1506.710
P	13	1467.699 *734.643 [2+] (14)	1450.673	1369.713 *685.636 [2+] (6)	1449.689
V	12	1370.646 *685.636 [2+] (6)	1353.620	1272.661 *636.360 [2+] (2)	1352.636
T	11	1271.578 1271.668 (2) *636.360 [2+] (2)	1254.552	1173.592 587.646 [2+] (3) 1173.715 (3)	1253.567
S	10	1170.530 1170.668 (8)	1153.504	1072.544 1072.727 (2)	1152.520
A	9	1083.498 1083.667 (3)	1066.472	985.512 985.664 (2)	1065.488
H	8	1012.461 1012.483 (7)	995.435	914.475 914.608 (13)	994.451
s	7	875.402 875.532 (10)	858.376	777.416	857.392
P	6	708.404 708.578 (100)	691.377	-	690.393 690.681 (4)
P	5	611.351 611.489 (4)	594.325	-	593.341
L	4	514.298	497.272	-	496.288
E	3	401.214 401.222 (3)	384.188	-	383.204
P	2	272.172 *272.274 (17)	255.145	-	254.161

R	1	175.119	158.092	-	157.108
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### Ion distribution

Threshold	Ion count	Matches	% matched
0	80	48	60
0.5	70	47	67
1	58	40	68
2	39	29	74
3	32	25	78
4	23	16	69
5	21	14	66
10	15	10	66

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
272.274	1175.40 <sub>5</sub>	17.84	b6[2+] (0.13) : y2 (0.10)
280.288	77.98 <sub>5</sub>	1.18	c6[2+] (-0.36)
327.362	70.93 <sub>5</sub>	1.07	a4 (0.15)
355.340	117.55 <sub>5</sub>	1.78	b4 (0.14)
383.180	88.86 <sub>5</sub>	1.34	y3o (-0.02)
401.222	223.97 <sub>5</sub>	3.40	y3 (0.00)
438.295	93.61 <sub>5</sub>	1.42	y7[2+] (0.08) : b5o (0.05)
456.457	78.04 <sub>5</sub>	1.18	b5 (0.21)
490.367	91.75 <sub>5</sub>	1.39	
525.407	99.35 <sub>5</sub>	1.50	b6o (0.13)
578.541	183.75 <sub>5</sub>	2.79	
587.646	222.33 <sub>5</sub>	3.37	y11-98[2+] (0.34)
596.294	237.38 <sub>5</sub>	3.60	b7o (-0.01)
611.489	283.63 <sub>5</sub>	4.30	y5 (0.13)
612.487	125.15 <sub>5</sub>	1.90	
614.331	102.31 <sub>5</sub>	1.55	b7 (0.01)
636.360	193.65 <sub>5</sub>	2.94	y11[2+] (0.06) : y12-98[2+] (-0.47)
669.618	210.46 <sub>5</sub>	3.19	b13*[2+] (0.32)
685.636	420.51 <sub>5</sub>	6.38	y13-98[2+] (0.27) : y12[2+] (-0.19)
690.681	306.64 <sub>5</sub>	4.65	y6o (0.28)
708.578	6585.56 <sub>5</sub>	100	y6 (0.17)
709.591	1231.32 <sub>5</sub>	18.69	
734.643	922.35 <sub>5</sub>	14.00	b8* (0.29) : y13[2+] (0.28) : c14[2+] (-0.20)
751.454	812.17 <sub>5</sub>	12.33	b8 (0.08)
755.700	2010.76 <sub>5</sub>	30.53	
795.839	1120.66 <sub>5</sub>	17.01	
804.361	2395.21 <sub>5</sub>	36.37	

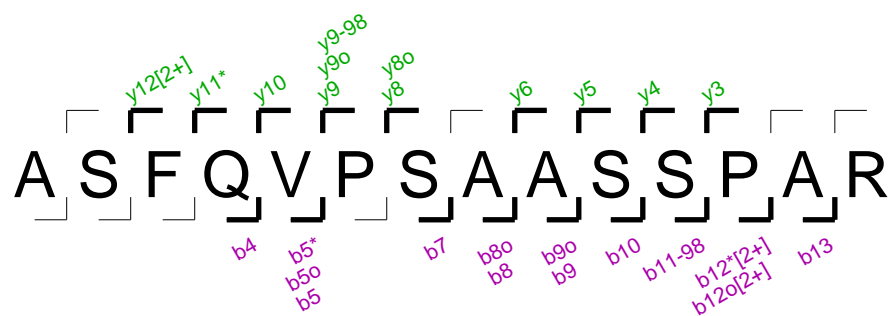
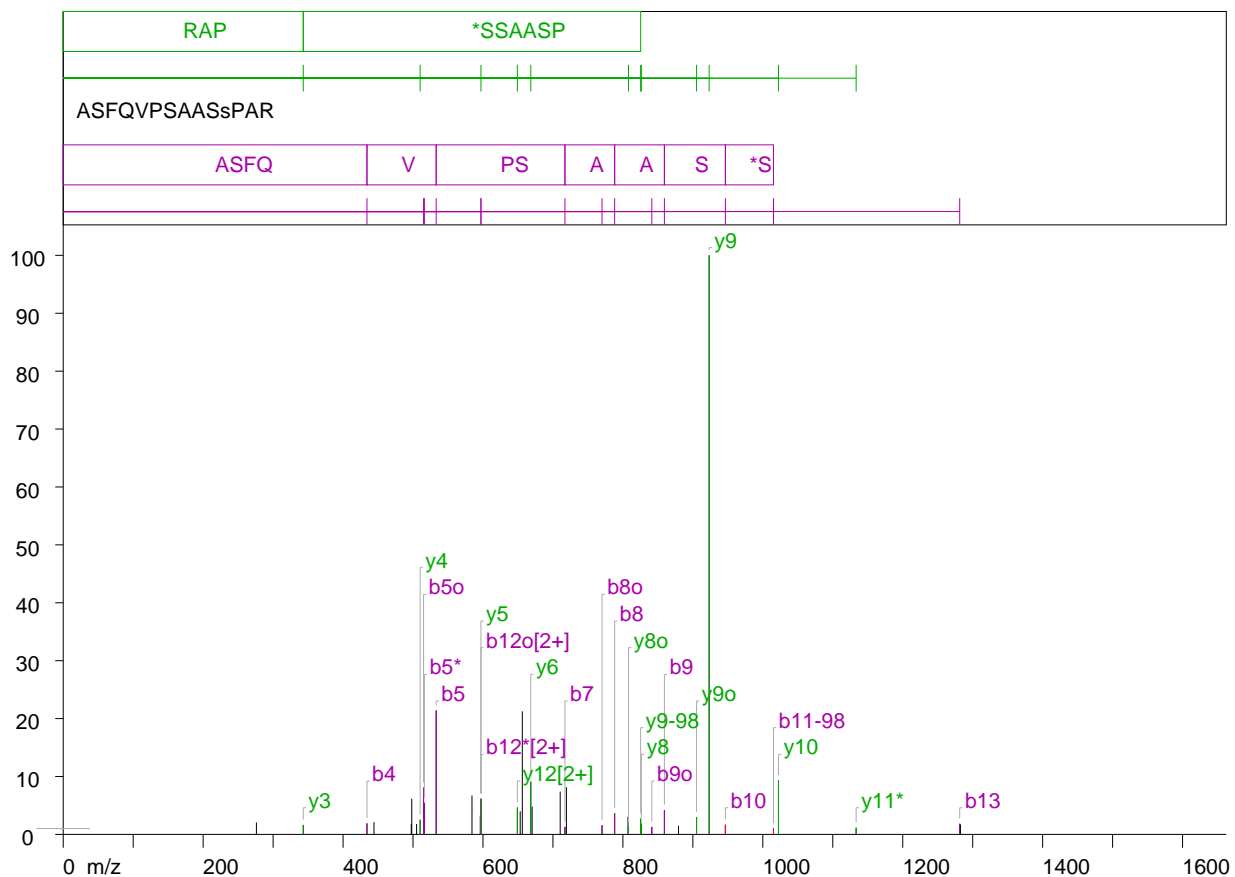


820.453	1419.25,	21.55	b9-98 (0.06)
875.532	664.64,	10.09	y7 (0.12)
900.404	254.18,	3.85	b9o (0.04)
914.608	886.97,	13.46	y8-98 (0.13)
917.665	213.59,	3.24	b10-98 (0.22)
918.408	1244.99,	18.90	b9 (0.03)
919.593	455.28,	6.91	
932.776	82.86,	1.25	
939.738	94.84,	1.44	
985.664	190.00,	2.88	y9-98 (0.15)
1012.483	480.39,	7.29	y8 (0.02)
1013.687	180.87,	2.74	
1027.823	82.71,	1.25	
1072.727	194.37,	2.95	y10-98 (0.18)
1073.736	122.48,	1.85	
1083.667	223.36,	3.39	y9 (0.16)
1127.752	78.89,	1.19	b12-98 (0.17)
1152.231	118.79,	1.80	y10o (-0.28)
1170.668	565.01,	8.57	y10 (0.13)
1171.656	182.44,	2.77	
1173.715	206.15,	3.13	y11-98 (0.12)
1225.689	483.56,	7.34	b12 (0.12)
1226.703	117.41,	1.78	
1239.708	81.73,	1.24	
1256.745	766.44,	11.63	b13-98 (0.12)
1257.742	444.01,	6.74	
1271.668	181.90,	2.76	y11 (0.08)
1272.866	127.83,	1.94	y12-98 (0.20)
1336.582	233.76,	3.54	b13o (-0.01)
1354.653	2021.25,	30.69	b13 (0.04)
1355.683	889.57,	13.50	

**S1983**

# ProPhosSI MS/MS report

Mass: 728.335422 Charge: 2+



## Cav3.2 Rat

(53) 1973 ASFQVPSAASsPAR 1986 1454.655 (-0.0003) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
11	(1983)	Phospho (ST)	b10 => b11-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	0/1	2 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b10 to b11-98 support unique phosphorylation at position 11  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b7 to b10.
Five of six sequential ions present	1/1	Five of Six ions found between b4 and b9 Five of Six ions found between b5 and b10 Five of Six ions found between b6 and b11 Five of Six ions found between b7 and b12
Proline directed fragmentation pattern	4/4	PASS: y9-98> y8-98  PASS: b6< b5  NOTE: S-P is a low abundance fragmentation. PASS: y3> y2  PASS: b12-98< b11-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 923.279: intensity: 24957.59) assigned 1 times ion 2 (mass: 533.102: intensity: 5342.70) assigned 1 times ion 3 (mass: 656.223: intensity: 5304.78) assigned 0 times ion 4 (mass: 1022.365: intensity: 2329.85) assigned 1 times ion 5 (mass: 668.347: intensity: 2274.40) assigned 1 times ion 6 (mass: 719.250: intensity: 2032.92) assigned 0 times ion 7 (mass: 515.097: intensity: 2016.45) assigned 1 times ion 8 (mass: 710.348: intensity: 1845.63) assigned 0 times ion 9 (mass: 584.265: intensity: 1673.63) assigned 1 times ion 10 (mass: 597.095: intensity: 1536.21) assigned 3 times

## Ion Table

27 ions assigned of 39 ions above threshold (69%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
A	1	72.044	55.018	-	54.034
S	2	159.076	142.050	-	141.066
F	3	306.145	289.118	-	288.134

Q	4	434.203 434.193 (1)	417.177	-	416.193
V	5	533.272 533.102 (21)	516.245 516.215 (5)	-	515.261 515.097 (8)
P	6	630.325	613.298	-	612.314
S	7	717.357 717.151 (1)	700.330	-	699.346
A	8	788.394 788.231 (3)	771.367	-	770.383 770.196 (1)
A	9	859.431 859.316 (4)	842.404	-	841.420 841.313 (1)
S	10	946.463 946.527 (1)	929.436	-	928.452
s	11	1113.461	1096.435	1015.475 1015.264 (1)	1095.451
P	12	1210.514	1193.488 *597.095 [2+] (6)	1112.528	1192.504 *597.095 [2+] (6)
A	13	1281.551 1281.436 (1)	1264.525	1183.565	1263.541
R	14	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
A	14	-	-	-	-
S	13	1384.626	1367.599	1286.640	1366.615
F	12	1297.594 649.165 [2+] (4)	1280.567	1199.608	1279.583
Q	11	1150.525	1133.499 *1133.419 (1)	1052.539	1132.515
V	10	1022.467 1022.365 (9)	1005.440	924.481	1004.456
P	9	923.398 923.279 (100)	906.372	825.412 825.398 (2)	905.388 905.315 (2)
S	8	826.346 826.362 (1)	809.319	728.360	808.335 808.049 (1)
A	7	739.313	722.287	641.328	721.303
A	6	668.276 668.347 (9)	651.250	570.290	650.266
S	5	597.239 *597.095 (6)	580.213	499.253	579.229
s	4	510.207 510.166 (2)	493.181	412.221	492.197
P	3	343.209 343.147 (1)	326.182	-	325.198
A	2	246.156	229.130	-	228.146
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	69	39	56
0.5	51	33	64
1	39	27	69
2	24	15	62

3	19	11	57
4	15	10	66
5	12	8	66
10	3	2	66

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
276.154	510.95 <sub>1</sub>	2.04	c5[2+] (0.50)
343.147	408.17 <sub>1</sub>	1.63	y3 (-0.06)
434.193	475.60 <sub>1</sub>	1.90	b4 (-0.01)
444.153	528.75 <sub>1</sub>	2.11	
497.476	448.07 <sub>1</sub>	1.79	
498.178	1536.20 <sub>1</sub>	6.15	
505.107	446.71 <sub>1</sub>	1.78	a5 (-0.17)
510.166	631.75 <sub>1</sub>	2.53	y4 (-0.04)
515.097	2016.45 <sub>1</sub>	8.07	b5o (-0.16)
516.215	1359.23 <sub>1</sub>	5.44	b5* (-0.03)
533.102	5342.70 <sub>1</sub>	21.40	b5 (-0.17)
584.265	1673.63 <sub>1</sub>	6.70	a6o (-0.05)
596.147	809.81 <sub>1</sub>	3.24	
597.095	1536.21 <sub>1</sub>	6.15	b12o[2+] (0.33) : y5 (-0.14) : b12*[2+] (-0.15)
649.165	1159.20 <sub>1</sub>	4.64	y12[2+] (-0.13)
653.199	994.59 <sub>1</sub>	3.98	
656.223	5304.78 <sub>1</sub>	21.25	
668.347	2274.40 <sub>1</sub>	9.11	y6 (0.07)
670.246	1194.62 <sub>1</sub>	4.78	
710.348	1845.63 <sub>1</sub>	7.39	
717.151	323.25 <sub>1</sub>	1.29	b7 (-0.20)
719.250	2032.92 <sub>1</sub>	8.14	
770.196	397.27 <sub>1</sub>	1.59	b8o (-0.18)
788.231	911.01 <sub>1</sub>	3.65	b8 (-0.16)
807.277	756.02 <sub>1</sub>	3.02	
808.049	292.93 <sub>1</sub>	1.17	y8o (-0.28)
825.398	678.69 <sub>1</sub>	2.71	y9-98 (-0.01)
826.362	456.49 <sub>1</sub>	1.82	y8 (0.01)
841.313	324.28 <sub>1</sub>	1.29	b9o (-0.10)
859.316	1049.42 <sub>1</sub>	4.20	b9 (-0.11)
879.477	371.58 <sub>1</sub>	1.48	
905.315	742.52 <sub>1</sub>	2.97	y9o (-0.07)
923.279	24957.59 <sub>1</sub>	100	y9 (-0.11)
946.527	414.48 <sub>1</sub>	1.66	b10 (0.06)
1015.264	253.09 <sub>1</sub>	1.01	b11-98 (-0.21)

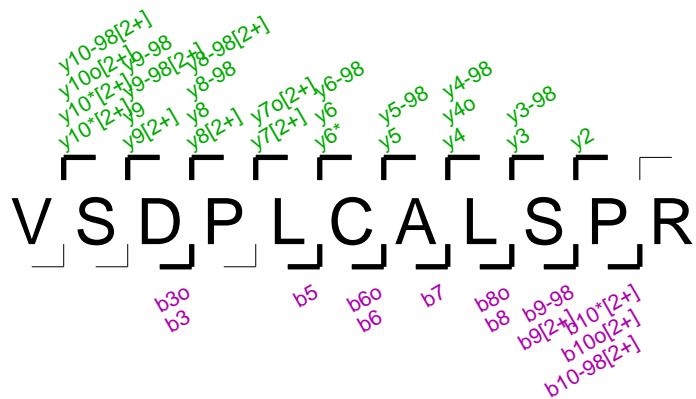
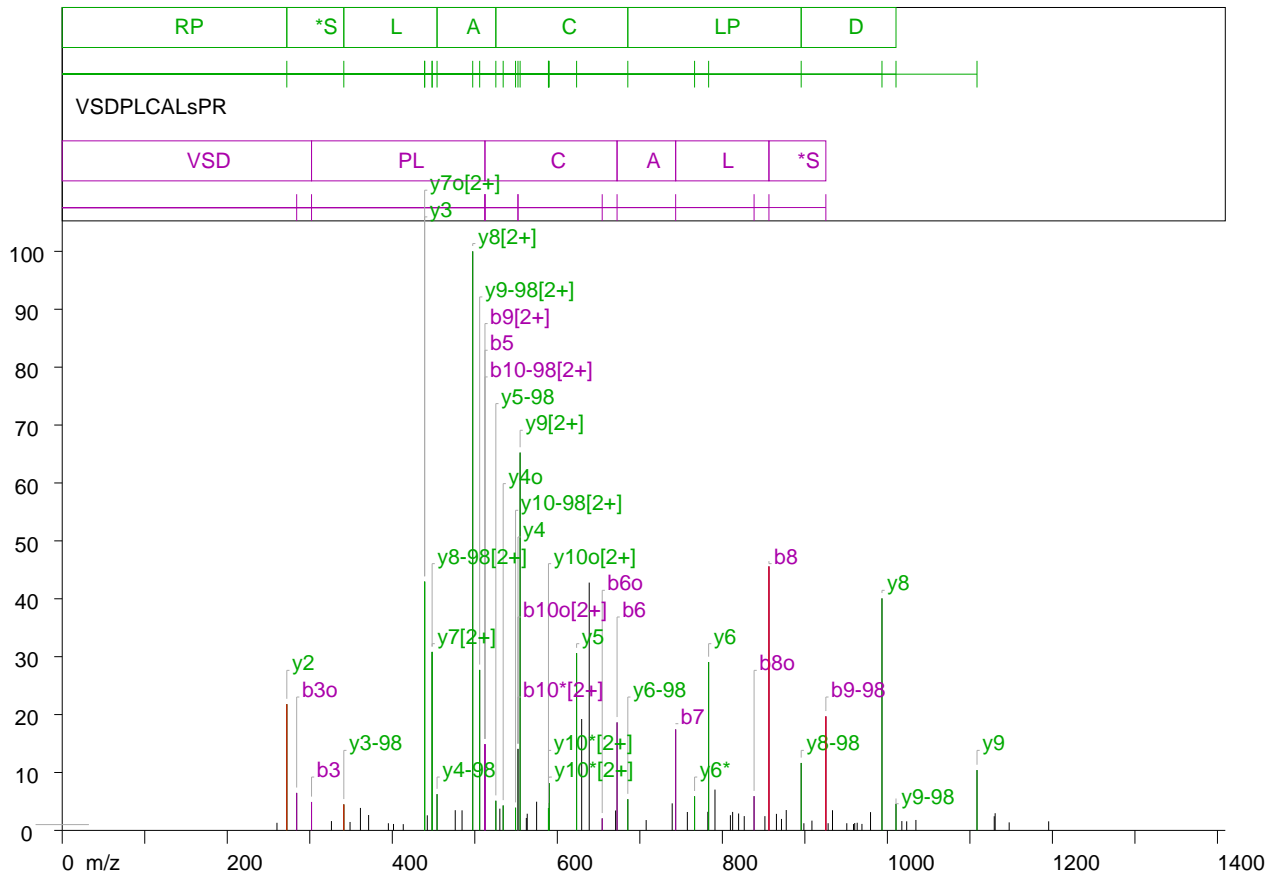
1022.365	2329.85 <sub>,</sub>	9.33	y10 (-0.10)
1133.419	286.92 <sub>,</sub>	1.14	y11* (-0.08) : z11 (-0.08)
1281.436	457.90 <sub>,</sub>	1.83	b13 (-0.11)
1282.550	428.49 <sub>,</sub>	1.71	

**S1995**



# ProPhosSI MS/MS report

Mass: 647.799255371094 Charge: 2+



## Cav3.2 Rat

(66) 1987 VSDPLCALsPR 1997 1293.578 (0.0040) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
9	(1995)	Phospho (ST)	b8 => b9-98 : y2 => y3-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	9 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b8 to b9-98, transition y2 to y3-98 support unique phosphorylation at position 9  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b5 to b8. Sequence of four y ions found from y2 to y5-98.
Five of six sequential ions present	1/1	Five of Six ions found between b3 and b8 Five of Six ions found between b4 and b9 Five of Six ions found between b5 and b10 Five of Six ions found between b6 and b11 Five of Six ions found between y1 and y6 Five of Six ions found between y2 and y7 Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10
Proline directed fragmentation pattern	4/4	PASS: y8-98> y7-98  PASS: b4< b3  NOTE: S-P is a low abundance fragmentation. PASS: y2> y1  PASS: b10-98< b9-98 with ratio 1.32 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	9/6	ion 1 (mass: 497.4551697: intensity: 17960.2265625) assigned 1 times ion 2 (mass: 554.90625: intensity: 11718.3818359375) assigned 1 times ion 3 (mass: 856.4442139: intensity: 8187.43359375) assigned 1 times ion 4 (mass: 439.2024536: intensity: 7715.8842773438) assigned 2 times ion 5 (mass: 638.6646729: intensity: 7686.0537109375) assigned 0 times ion 6 (mass: 993.4265137: intensity: 7196.0063476563) assigned 1 times ion 7 (mass: 448.282196: intensity: 5536.3461914063) assigned 2 times ion 8 (mass: 623.3571777: intensity: 5497.734375) assigned 1 times ion 9 (mass: 783.355957: intensity: 5221.4497070313) assigned 1 times ion 10 (mass: 505.915802: intensity: 4977.8823242188) assigned 1 times

## Ion Table

33 ions assigned of 58 ions above threshold (56%).

## N-terminal ions

AA	N-ion	b	b*	b-98	bo
V	1	100.076	83.049	-	82.065
S	2	187.108	170.081	-	169.097
D	3	302.135 302.1261597 (4)	285.108	-	284.124 284.1365662 (6)
P	4	399.187	382.161	-	381.177
L	5	512.272 *512.302124 (14)	495.245	-	494.261
C	6	672.302 672.3943481 (18)	655.276	-	654.292 654.4123535 (2)
A	7	743.339 743.4266357 (17)	726.313	-	725.329
L	8	856.423 856.4442139 (45)	839.397	-	838.413 838.4448242 (5)
s	9	1023.422 *512.302124 [2+] (14)	1006.395	925.436 925.4222412 (19)	1005.411
P	10	1120.475	1103.448 *552.3293457 [2+] (14)	1022.489 *512.302124 [2+] (14)	1102.464 *552.3293457 [2+] (14)
R	11	-	-	-	-

## C-terminal ions

AA	C-ion	y	y*	y-98	yo
V	11	-	-	-	-
S	10	1195.518	1178.491 *590.1223755 [2+] (8) *589.2608643 [2+] (3)	1097.532 549.3804932 [2+] (3)	1177.507 *589.2608643 [2+] (3)
D	9	1108.486 554.90625 [2+] (65) 1108.611572 (10)	1091.459	1010.500 505.915802 [2+] (27) 1010.45166 (4)	1090.475
P	8	993.459 497.4551697 [2+] (100) 993.4265137 (40)	976.432	895.473 895.5281982 (11) *448.282196 [2+] (30)	975.448
L	7	896.406 *448.282196 [2+] (30)	879.379	798.420	878.395 *439.2024536 [2+] (42)
C	6	783.322 783.355957 (29)	766.295 *766.3364258 (5)	685.336 685.4211426 (5)	765.311
A	5	623.291 623.3571777 (30)	606.265	525.305 525.4963989 (5)	605.281
L	4	552.254 *552.3293457 (14)	535.228	454.268 454.2500916 (6)	534.244 534.3762817 (4)
s	3	439.170 *439.2024536 (42)	422.144	341.184 341.2322388 (4)	421.160
P	2	272.172 272.1773682 (21)	255.145	-	254.161
R	1	175.119	158.092	-	157.108

## Ion distribution

Threshold	Ion count	Matches	% matched
0	111	48	43
0.5	101	45	44
1	79	37	46
2	58	33	56
3	46	31	67

4	33	28	84
5	27	24	88
10	19	17	89

### Observed ions > 1%

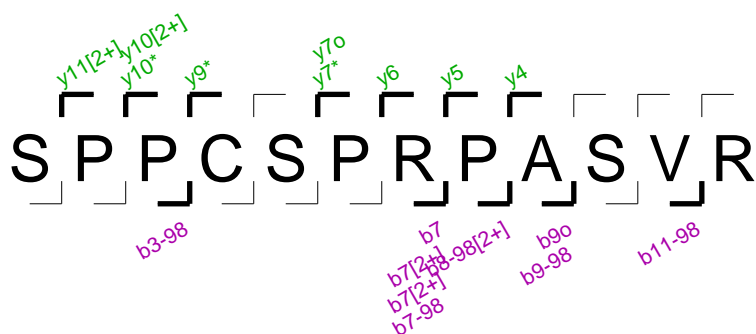
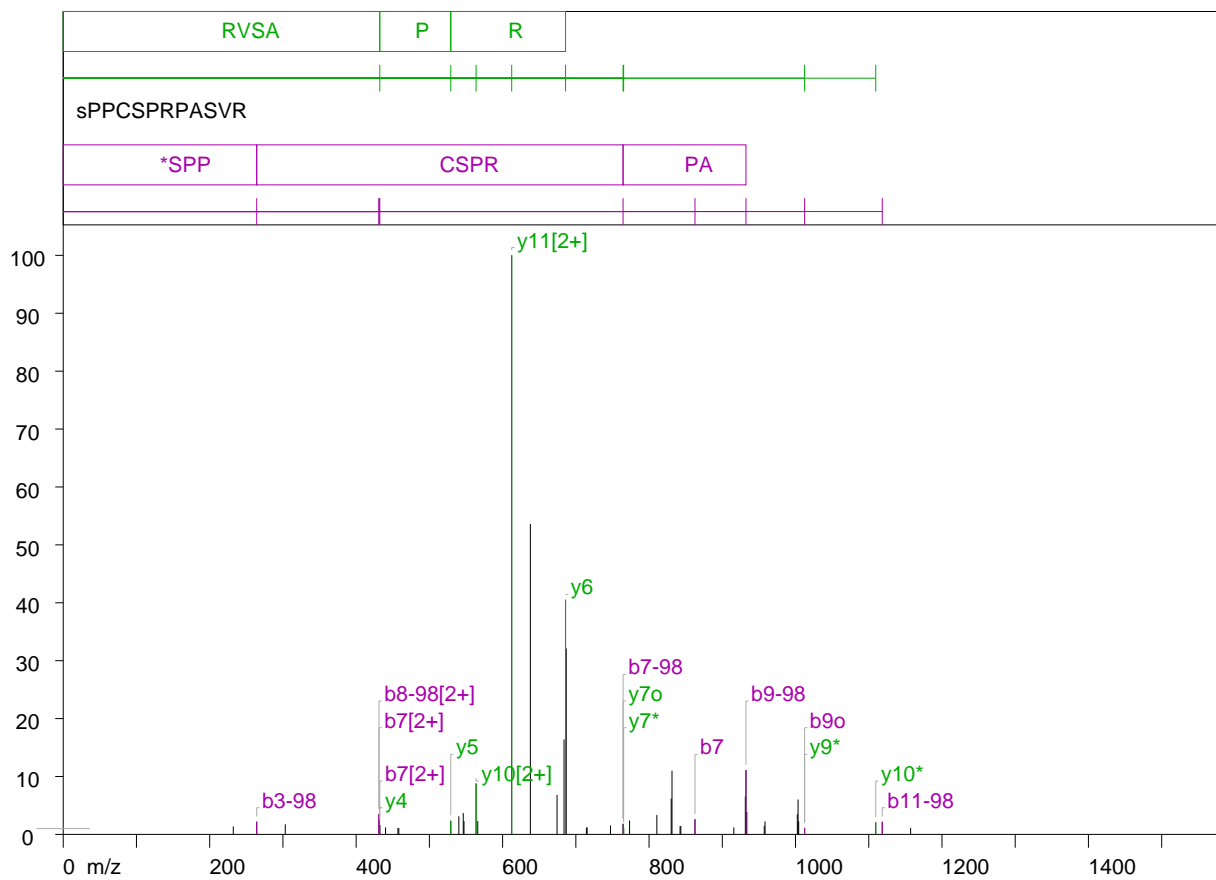
m/z	Intensity	% max	Assignment (delta)
260.2436218	235.6178894043,	1.31	
272.1773682	3915.623046875,	21.80	y2 (0.00)
284.1365662	1163.2344970703,	6.47	b3o (0.01)
302.1261597	881.7331542969,	4.90	b3 (-0.00)
326.2348938	289.0704040527,	1.60	x5[2+] (0.08)
341.2322388	805.7885742188,	4.48	y3-98 (0.04)
348.7924805	261.4540100098,	1.45	a7o[2+] (-0.37)
361.3694458	696.9048461914,	3.88	
371.2931213	476.7682189941,	2.65	a4 (0.10)
395.2716675	221.8987579346,	1.23	
401.4552612	199.0364379883,	1.10	
413.3076172	194.1717529297,	1.08	
439.2024536	7715.8842773438,	42.96	y3 (0.03) : y7o[2+] (-0.49)
442.4216919	467.5187072754,	2.60	
448.282196	5536.3461914063,	30.82	y8-98[2+] (0.04) : y7[2+] (-0.42)
454.2500916	1123.1224365234,	6.25	y4-98 (-0.01)
476.2983398	626.6051025391,	3.48	
484.5246887	622.3198852539,	3.46	a5 (0.24)
497.4551697	17960.2265625,	100	y8[2+] (0.22)
505.915802	4977.8823242188,	27.71	y9-98[2+] (0.16)
512.302124	2673.0668945313,	14.88	b10-98[2+] (0.55) : b9[2+] (0.08) : b5 (0.03)
525.4963989	920.1224365234,	5.12	y5-98 (0.19)
530.3309326	674.0373535156,	3.75	
534.3762817	773.2008056641,	4.30	y4o (0.13)
549.3804932	703.1048583984,	3.91	y10-98[2+] (0.11)
552.3293457	2526.7565917969,	14.06	b10o[2+] (0.59) : b10*[2+] (0.10) : y4 (0.07)
554.90625	11718.3818359375,	65.24	y9[2+] (0.15)
562.4329224	385.3946228027,	2.14	
563.5355225	517.4490966797,	2.88	
574.909668	890.2751464844,	4.95	
589.2608643	694.7947998047,	3.86	y10o[2+] (0.00) : y10*[2+] (-0.48) : z10[2+] (-0.48)
590.1223755	1466.11328125,	8.16	y10*[2+] (0.37) : z10[2+] (0.37)
623.3571777	5497.734375,	30.61	y5 (0.06)
629.4918213	3454.5732421875,	19.23	
638.6646729	7686.0537109375,	42.79	
654.4123535	372.9429931641,	2.07	b6o (0.12)

670.6335449	617.2603759766,	3.43	
672.3943481	3350.1962890625,	18.65	b6 (0.09)
685.4211426	968.354675293,	5.39	y6-98 (0.08)
707.6616211	321.129699707,	1.78	
739.2200928	838.8792724609,	4.67	
743.4266357	3132.6760253906,	17.44	b7 (0.08)
757.5592041	570.9163208008,	3.17	
766.3364258	1056.8063964844,	5.88	y6* (0.04) : z6 (0.04)
782.3835449	576.3665771484,	3.20	
783.355957	5221.4497070313,	29.07	y6 (0.03)
791.0617676	1265.9880371094,	7.04	
809.7320557	471.3146362305,	2.62	
812.4608154	573.0699462891,	3.19	
819.696167	523.9492797852,	2.91	
826.5273438	443.1267700195,	2.46	
838.4448242	1061.2895507813,	5.90	b8o (0.03)
851.5666504	441.7756958008,	2.45	
856.4442139	8187.43359375,	45.58	b8 (0.02)
865.5306396	512.6693115234,	2.85	
871.6334229	355.8700561523,	1.98	
877.4384766	631.4690551758,	3.51	
895.5281982	2091.8537597656,	11.64	y8-98 (0.05)
898.7810059	221.9821472168,	1.23	
908.5500488	302.9566650391,	1.68	
925.4222412	3536.3520507813,	19.68	b9-98 (-0.01)
928.1762695	223.2551269531,	1.24	
933.484375	625.7904052734,	3.48	
950.8054199	222.1949310303,	1.23	
958.998291	197.1584014893,	1.09	
960.4506836	229.2367248535,	1.27	
963.4106445	236.8723144531,	1.31	
969.1685791	201.3105773926,	1.12	
979.5788574	566.8957519531,	3.15	
993.4265137	7196.0063476563,	40.06	y8 (-0.03)
1010.45166	824.2544555664,	4.58	y9-98 (-0.04)
1017.514648	288.8084716797,	1.60	
1023.411499	281.4692077637,	1.56	b9 (-0.01)
1034.560913	323.6397399902,	1.80	
1108.611572	1870.6478271484,	10.41	y9 (0.12)
1129.501099	439.0194091797,	2.44	
1130.605591	532.96484375,	2.96	
1147.594604	248.7687530518,	1.38	
1195.464233	281.5608520508,	1.56	y10 (-0.05)

S2054

# ProPhosSI MS/MS report

Mass: 695.818525 Charge: 2+



## Cav3.2 Rat

(17) 2054 sPPCSPRPASVR 2065 1389.622 (-0.0010) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
1	(2054)	Phospho (ST)	b3-98, y10[2+], y11[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	5 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	No transitions found to support unique phosphorylation at position 1  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	3/6	NOTE: S-P is a low abundance fragmentation. PASS: y11> y10 with ratio 11.3  No proline ions at b2-98  NOTE: P-P is a low abundance fragmentation. PASS: y10> y9  FAIL: b3-98> b2-98 NOTE: S-P is a low abundance fragmentation. FAIL: y7< y6 No proline ions at b6-98  PASS: y5> y4 with ratio 1.46  FAIL: b8-98> b7-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 612.406: intensity: 12593.74) assigned 1 times ion 2 (mass: 637.913: intensity: 6753.57) assigned 0 times ion 3 (mass: 685.955: intensity: 5102.75) assigned 1 times ion 4 (mass: 686.882: intensity: 4040.84) assigned 0 times ion 5 (mass: 683.893: intensity: 2065.33) assigned 0 times ion 6 (mass: 932.302: intensity: 1398.82) assigned 1 times ion 7 (mass: 831.313: intensity: 1387.68) assigned 0 times ion 8 (mass: 563.789: intensity: 1107.78) assigned 2 times ion 9 (mass: 674.350: intensity: 858.87) assigned 0 times ion 10 (mass: 931.461: intensity: 825.06) assigned 1 times

## Ion Table

20 ions assigned of 45 ions above threshold (44%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
s	1	168.006	150.979	70.020	149.995
P	2	265.058	248.032	167.073	247.048



P	3	362.111	345.085	264.125 264.229 (2)	344.101
C	4	522.142	505.115	424.156	504.131
S	5	609.174	592.147	511.188	591.163
P	6	706.227	689.200	608.241	688.216
R	7	862.328 862.697 (2) *432.255 [2+] (1) *431.207 [2+] (3)	845.301	764.342 *764.527 (1)	844.317
P	8	959.381	942.354	861.395 *431.207 [2+] (3)	941.370
A	9	1030.418	1013.391	932.432 932.302 (11)	1012.407 *1012.428 (1)
S	10	1117.450	1100.423	1019.464	1099.439
V	11	1216.518	1199.492	1118.532 1118.437 (2)	1198.508
R	12	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	yo
s	12	-	-	-
P	11	1223.631 612.406 [2+] (100)	1206.605	1205.621
P	10	1126.579 *563.789 [2+] (8)	1109.552 *1109.561 (2)	1108.568
C	9	1029.526	1012.499 *1012.428 (1)	1011.515
S	8	869.495	852.469	851.485
P	7	782.463	765.437 *765.277 (1)	764.453 *764.527 (1)
R	6	685.410 685.955 (40)	668.384	667.400
P	5	529.309 *529.239 (2)	512.283	511.299
A	4	432.257 *432.255 (1)	415.230	414.246
S	3	361.219	344.193	343.209
V	2	274.187	257.161	256.177
R	1	175.119	158.092	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	72	24	33
0.5	57	22	38
1	45	20	44
2	28	13	46
3	18	8	44
4	12	5	41
5	12	5	41
10	7	3	42

Observed ions > 1%

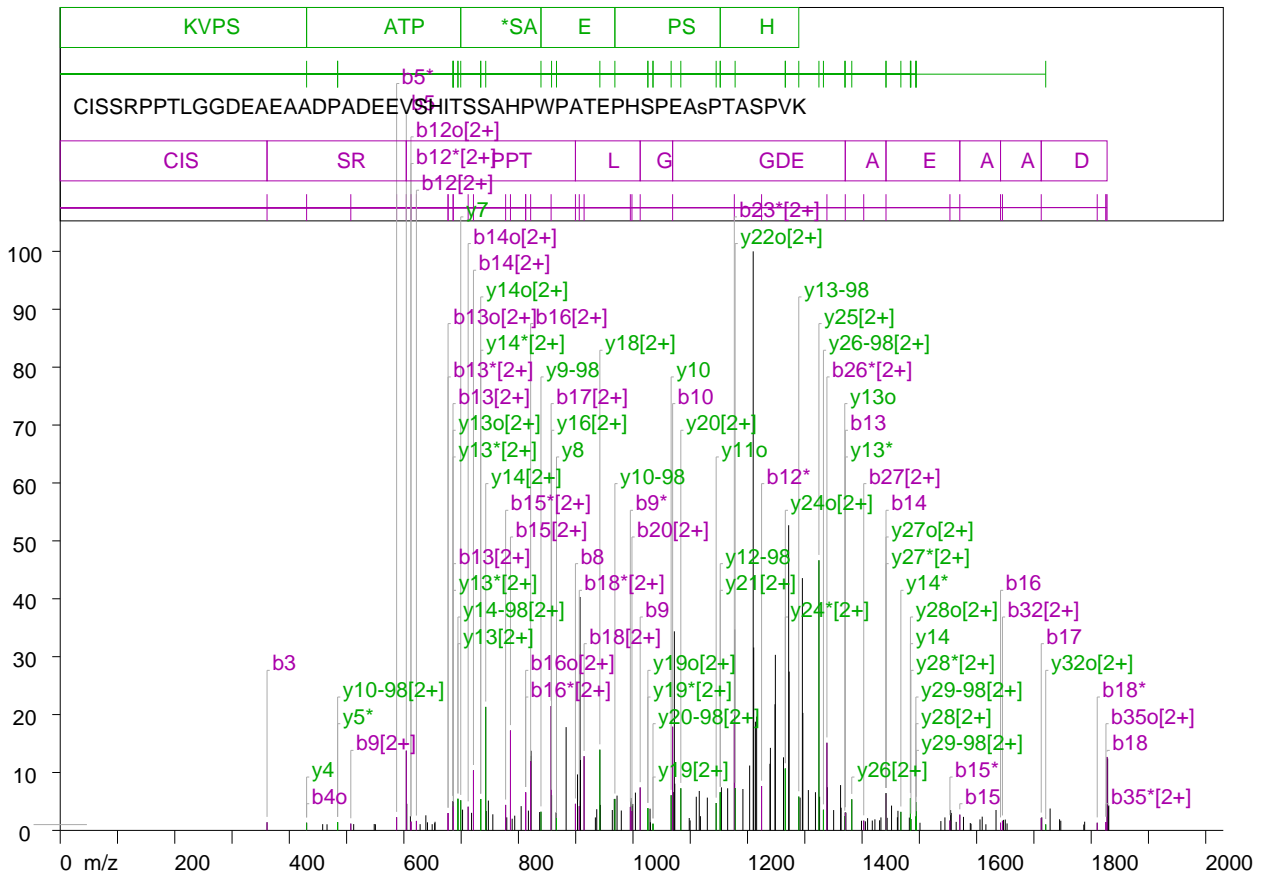
m/z	Intensity	% max	Assignment (delta)
232.212	173.70 <sub>3</sub>	1.37	
264.229	276.24 <sub>3</sub>	2.19	b3-98 (0.10)
303.236	219.88 <sub>3</sub>	1.74	
431.207	439.67 <sub>3</sub>	3.49	b8-98[2+] (0.00) : b7[2+] (-0.46)
432.255	202.78 <sub>3</sub>	1.61	b7[2+] (0.58) : y4 (-0.00)
440.179	153.08 <sub>3</sub>	1.21	c7[2+] (-0.00)
457.062	138.51 <sub>3</sub>	1.09	a8o[2+] (-0.12)
458.277	139.96 <sub>3</sub>	1.11	a8*[2+] (0.59)
529.239	296.87 <sub>3</sub>	2.35	x9[2+] (-0.02) : y5 (-0.07)
540.212	393.92 <sub>3</sub>	3.12	
546.230	465.65 <sub>3</sub>	3.69	
547.245	289.28 <sub>3</sub>	2.29	
563.789	1107.78 <sub>3</sub>	8.79	y10[2+] (-0.00) : a5* (-0.36)
566.068	289.45 <sub>3</sub>	2.29	
612.406	12593.74 <sub>3</sub>	100	y11[2+] (0.08)
637.913	6753.57 <sub>3</sub>	53.62	
674.350	858.87 <sub>3</sub>	6.81	
683.893	2065.33 <sub>3</sub>	16.39	
685.955	5102.75 <sub>3</sub>	40.51	y6 (0.54)
686.882	4040.84 <sub>3</sub>	32.08	
714.438	144.00 <sub>3</sub>	1.14	
715.400	155.06 <sub>3</sub>	1.23	
747.376	192.43 <sub>3</sub>	1.52	
764.527	229.59 <sub>3</sub>	1.82	b7-98 (0.18) : y7o (0.07)
765.277	145.42 <sub>3</sub>	1.15	z7 (-0.16) : y7* (-0.16)
773.368	303.06 <sub>3</sub>	2.40	
810.627	422.27 <sub>3</sub>	3.35	x7 (0.16)
830.229	779.03 <sub>3</sub>	6.18	
831.313	1387.68 <sub>3</sub>	11.01	
842.348	180.56 <sub>3</sub>	1.43	
843.378	185.55 <sub>3</sub>	1.47	
862.697	328.49 <sub>3</sub>	2.60	b7 (0.36)
915.736	154.12 <sub>3</sub>	1.22	
931.461	825.06 <sub>3</sub>	6.55	a8 (0.07)
932.302	1398.82 <sub>3</sub>	11.10	b9-98 (-0.13)
933.490	490.58 <sub>3</sub>	3.89	
957.314	187.14 <sub>3</sub>	1.48	
958.396	281.50 <sub>3</sub>	2.23	
1002.455	438.58 <sub>3</sub>	3.48	a9 (0.03)
1003.493	757.91 <sub>3</sub>	6.01	
1004.319	281.95 <sub>3</sub>	2.23	
1012.428	141.37 <sub>3</sub>	1.12	b9o (0.02) : y9* (-0.07) : z9 (-0.07)

1109.561	261.04 <sub>3</sub>	2.07	y10* (0.00) : z10 (0.00)
1118.437	274.69 <sub>3</sub>	2.18	b11-98 (-0.09)
1157.203	142.73 <sub>3</sub>	1.13	

S2119

# ProPhosSI MS/MS report

Mass: 1091.50048828125 Charge: 5+



C I S S R P P T L G G D E

A E A A D P A D E E V S H I T S S A H P W P A T E

P H S P E A S P T A S P V K

## Cav3.2 Rat

(24) 2075 CISSRPPTLGGDEAEAADPADEEVSHITSSAHPWPATEPHSPEAsPTASPVK 2126 5452.446  
(0.0163) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
45	(2119)	Phospho (ST)	y7=>y10-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y7 to y10-98 support unique phosphorylation at position 45
Four Sequential b or y ions	1/1	  Sequence of four b ions found from b12 to b15.
Five of six sequential ions present	1/1	Five of Six ions found between b8 and b13 Five of Six ions found between b9 and b14 Five of Six ions found between b10 and b15 Five of Six ions found between b11 and b16 Five of Six ions found between b12 and b17 Five of Six ions found between b13 and b18 Five of Six ions found between b14 and b19 Five of Six ions found between b15 and b20 Five of Six ions found between y9 and y14
Proline directed fragmentation pattern	5/7	No proline ions at y47-98 PASS: b6< b5  NOTE: P-P is a low abundance fragmentation. No proline ions at y46-98 No proline ions at b7  No proline ions at y34-98 PASS: b19< b18  PASS: y20-98> y19-98  PASS: b33< b32  NOTE: W-P is a low abundance fragmentation. No proline ions at y18-98 No proline ions at b35  FAIL: y14-98< y13-98 No proline ions at b39  NOTE: S-P is a low abundance fragmentation. FAIL: y11-98< y10-98 No proline ions at b42  NOTE: S-P is a low abundance fragmentation. PASS: y7> y6  No proline ions at b46-98  NOTE: S-P is a low abundance fragmentation. No proline ions at y3 No proline ions at b50-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	2/6	ion 1 (mass: 1209.892456: intensity: 9818.9296875) assigned 0 times ion 2 (mass: 1271.776001: intensity: 5174.6440429688) assigned 0 times ion 3 (mass: 1324.643677: intensity: 4580.1337890625) assigned 3 times ion 4 (mass: 1295.761353: intensity: 4278.0874023438) assigned 0 times ion 5 (mass: 907.5992432: intensity: 3958.3454589844) assigned 1 times ion 6 (mass: 1177.567017: intensity:

-	-	3407.2993164063) assigned 0 times ion 7 (mass: 1072.227173: intensity: 3375.662109375) assigned 0 times ion 8 (mass: 1210.736206: intensity: 3101.2966308594) assigned 0 times ion 9 (mass: 1248.584351: intensity: 2976.8547363281) assigned 0 times ion 10 (mass: 1272.617554: intensity: 2693.1457519531) assigned 0 times
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## Ion Table

85 ions assigned of 182 ions above threshold (46%).

N-terminal ions

AA	N-ion	b	b*	b-98	bo
C	1	161.038	144.011	-	143.027
I	2	274.122	257.095	-	256.111
S	3	361.154 361.1133118 (1)	344.128	-	343.144
S	4	448.186	431.160	-	430.176 *430.1480713 (1)
R	5	604.287 604.2109375 (13)	587.261 587.305481 (2)	-	586.277
P	6	701.340	684.313	-	683.329
P	7	798.393	781.366	-	780.382
T	8	899.440 899.5310059 (4)	882.414	-	881.430
L	9	1012.525 507.3081665 [2+] (1) 1012.576172 (7)	995.498 995.4127197 (4)	-	994.514
G	10	1069.546 1069.226196 (17)	1052.519	-	1051.535
G	11	1126.567	1109.541	-	1108.557
D	12	1241.594 *621.8565674 [2+] (1)	1224.568 1224.542725 (7) *612.3520508 [2+] (1)	-	1223.584 *612.3520508 [2+] (1)
E	13	1370.637 *685.7800293 [2+] (5) *1370.648438 (3) *686.3863525 [2+] (4)	1353.610 *677.1717529 [2+] (2)	-	1352.626 *677.1717529 [2+] (2)
A	14	1441.674 *1441.739502 (6) 721.4846191 [2+] (10)	1424.648	-	1423.664 712.2225342 [2+] (4)
E	15	1570.717 786.0649414 [2+] (17) 1570.626831 (2)	1553.690 777.6696777 [2+] (4) *1553.406006 (1)	-	1552.706
A	16	1641.754 *1641.730103 (1) *821.3361816 [2+] (11)	1624.727 *812.5979004 [2+] (6)	-	1623.743 *812.5979004 [2+] (6)
A	17	1712.791 1712.812134 (2) 857.0291748 [2+] (21)	1695.764	-	1694.780
D	18	1827.818 914.6485596 [2+] (12) *1827.761841 (12)	1810.791 1810.521606 (1) 906.2084961 [2+] (4)	-	1809.807
P	19	1924.871	1907.844	-	1906.860
A	20	1995.908 998.2147217 [2+] (3)	1978.881	-	1977.897
D	21	2110.935	2093.908	-	2092.924
E	22	2239.977	2222.951	-	2221.967
E	23	2369.020	2351.993 1176.905151 [2+] (18)	-	2351.009

V	24	2468.088	2451.062	-	2450.078
S	25	2555.120	2538.094	-	2537.110
H	26	2692.179	2675.153 *1338.633179 [2+] (15)	-	2674.169
I	27	2805.263 1402.893311 [2+] (1)	2788.237	-	2787.253
T	28	2906.311	2889.285	-	2888.301
S	29	2993.343	2976.317	-	2975.333
S	30	3080.375	3063.349	-	3062.365
A	31	3151.412	3134.386	-	3133.402
H	32	3288.471 1645.092773 [2+] (1)	3271.445	-	3270.461
P	33	3385.524	3368.497	-	3367.513
W	34	3571.603	3554.577	-	3553.593
P	35	3668.656	3651.629 *1825.780029 [2+] (1)	-	3650.645 *1825.780029 [2+] (1)
A	36	3739.693	3722.667	-	3721.683
T	37	3840.741	3823.714	-	3822.730
E	38	3969.783	3952.757	-	3951.773
P	39	4066.836	4049.810	-	4048.826
H	40	4203.895	4186.869	-	4185.885
S	41	4290.927	4273.901	-	4272.917
P	42	4387.980	4370.953	-	4369.969
E	43	4517.022	4499.996	-	4499.012
A	44	4588.060	4571.033	-	4570.049
s	45	4755.058	4738.031	4657.072	4737.047
P	46	4852.111	4835.084	4754.125	4834.100
T	47	4953.158	4936.132	4855.172	4935.148
A	48	5024.196	5007.169	4926.210	5006.185
S	49	5111.228	5094.201	5013.242	5093.217
P	50	5208.280	5191.254	5110.294	5190.270
V	51	5307.349	5290.322	5209.363	5289.338
K	52	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
C	52	-	-	-	-
I	51	5293.424	5276.397	5195.438	5275.413
S	50	5180.340	5163.313	5082.354	5162.329
S	49	5093.308	5076.281	4995.322	5075.297
R	48	5006.275	4989.249	4908.290	4988.265
P	47	4850.174	4833.148	4752.188	4832.164
P	46	4753.122	4736.095	4655.136	4735.111
T	45	4656.069	4639.042	4558.083	4638.058
L	44	4555.021	4537.995	4457.035	4537.011
G	43	4441.937	4424.911	4343.951	4423.927
G	42	4384.916	4367.889	4286.930	4366.905



D	41	4327.894	4310.868	4229.908	4309.884
E	40	4212.867	4195.841	4114.881	4194.857
A	39	4083.825	4066.798	3985.839	4065.814
E	38	4012.787	3995.761	3914.802	3994.777
A	37	3883.745	3866.718	3785.759	3865.734
A	36	3812.708	3795.681	3714.722	3794.697
D	35	3741.671	3724.644	3643.685	3723.660
P	34	3626.644	3609.617	3528.658	3608.633
A	33	3529.591	3512.564	3431.605	3511.580
D	32	3458.554	3441.527	3360.568	3440.543 1720.633911 [2+] (1)
E	31	3343.527	3326.500	3245.541	3325.516
E	30	3214.484	3197.458	3116.498	3196.474
V	29	3085.442	3068.415	2987.456 *1493.928223 [2+] (2) 1494.623413 [2+] (4)	3067.431
S	28	2986.373 *1493.928223 [2+] (2)	2969.347 *1485.303345 [2+] (1)	2888.387	2968.363 *1484.415405 [2+] (5)
H	27	2899.341	2882.315 *1441.739502 [2+] (6)	2801.355	2881.331 *1441.739502 [2+] (6)
I	26	2762.282 1381.997803 [2+] (5)	2745.256	2664.296 *1332.531372 [2+] (3)	2744.272
T	25	2649.198 *1324.643677 [2+] (46)	2632.172	2551.212	2631.188
S	24	2548.151	2531.124 *1265.977661 [2+] (10)	2450.165	2530.140 *1265.977661 [2+] (10)
S	23	2461.118	2444.092	2363.133	2443.108
A	22	2374.086	2357.060	2276.101	2356.076 1178.309814 [2+] (7)
H	21	2303.049 *1152.33728 [2+] (6)	2286.023	2205.063	2285.039
P	20	2165.990 1083.528809 [2+] (7)	2148.964	2068.005 *1034.937012 [2+] (1)	2147.980
W	19	2068.938 *1034.937012 [2+] (1)	2051.911 *1026.021362 [2+] (3)	1970.952	2050.927 *1026.021362 [2+] (3)
P	18	1882.858 942.1848145 [2+] (13)	1865.832	1784.872	1864.848
A	17	1785.806	1768.779	1687.820	1767.795
T	16	1714.768 857.8365479 [2+] (6)	1697.742	1616.783	1696.758
E	15	1613.721	1596.694	1515.735	1595.710
P	14	1484.678 742.9121094 [2+] (21) *1484.415405 (5)	1467.652 *1467.718872 (3) *734.1431885 [2+] (5)	1386.692 *694.3746338 [2+] (5)	1466.668 *734.1431885 [2+] (5)
H	13	1387.625 *694.3746338 [2+] (5)	1370.599 *685.7800293 [2+] (5) *1370.648438 (3) *686.3863525 [2+] (4)	1289.640 1289.494995 (5)	1369.615 *685.7800293 [2+] (5) 1369.776855 (2)
S	12	1250.566	1233.540	1152.581 *1152.33728 (6)	1232.556
P	11	1163.534	1146.508	1065.549	1145.524 1145.191895 (4)
E	10	1066.482 1066.603516 (6)	1049.455	968.496 *484.3243408 [2+] (1) 968.4006348 (5)	1048.471
A	9	937.439	920.413	839.453 839.3673096 (3)	919.429
s	8	866.402	849.375	768.416	848.391

-	-	866.4445801 (2)	-	-	-
P	7	699.404 *699.2799072 (5)	682.377	-	681.393
T	6	602.351	585.324	-	584.340
A	5	501.303	484.277 *484.3243408 (1)	-	483.293
S	4	430.266 *430.1480713 (1)	413.240	-	412.256
P	3	343.234	326.208	-	325.223
V	2	246.181	229.155	-	228.171
K	1	147.113	130.086	-	129.102

### Ion distribution

Threshold	Ion count	Matches	% matched
0	225	101	44
0.5	212	97	45
1	182	85	46
2	136	64	47
3	111	55	49
4	87	45	51
5	72	37	51
10	35	16	45

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
361.1133118	138.555267334 <sub>s</sub>	1.41	b3 (-0.04)
430.1480713	129.8214263916 <sub>s</sub>	1.32	b4o (-0.02) : y4 (-0.11)
458.2215576	105.7660522461 <sub>s</sub>	1.07	x4 (-0.03) : c8[2+] (-0.51)
465.8394775	103.6264343262 <sub>s</sub>	1.05	
484.3243408	140.0223999023 <sub>s</sub>	1.42	a9o[2+] (0.56) : a9*[2+] (0.06) : y5* (0.04) : z5 (0.04) : y10-98[2+] (-0.42)
507.3081665	114.9241867065 <sub>s</sub>	1.17	b9[2+] (0.54)
512.3604736	106.4180297852 <sub>s</sub>	1.08	a10o[2+] (0.08) : a10*[2+] (-0.40)
548.2194824	108.5081939697 <sub>s</sub>	1.10	x10[2+] (0.47)
550.3096924	104.3839492798 <sub>s</sub>	1.06	a11[2+] (0.51)
587.305481	223.5336914063 <sub>s</sub>	2.27	b5* (0.04)
604.2109375	1352.0979003906 <sub>s</sub>	13.77	b5 (-0.07)
605.1126709	450.9348754883 <sub>s</sub>	4.59	
611.3813477	242.2004241943 <sub>s</sub>	2.46	
612.3520508	148.3235321045 <sub>s</sub>	1.51	b12o[2+] (0.05) : b12*[2+] (-0.43)
621.8565674	160.6429290771 <sub>s</sub>	1.63	b12[2+] (0.55) : c5 (0.54)
628.3331299	105.7133178711 <sub>s</sub>	1.07	
638.3607178	255.646697998 <sub>s</sub>	2.60	
641.204834	137.0092163086 <sub>s</sub>	1.39	

649.3989258	105.1747970581	1.07	
653.7832031	122.3015518188	1.24	
654.3859863	146.4954528809	1.49	
677.1717529	294.1917724609	2.99	b13o[2+] (0.35) : b13*[2+] (-0.13)
685.7800293	496.3411254883	5.05	y13o[2+] (0.46) : y13*[2+] (-0.02) : z13[2+] (-0.02) : b13[2+] (-0.04)
686.3863525	399.6311340332	4.07	y13*[2+] (0.58) : z13[2+] (0.58) : b13[2+] (0.56)
694.3746338	536.2106933594	5.46	y14-98[2+] (0.52) : y13[2+] (0.05) : c13[2+] (0.03)
699.2799072	511.2979431152	5.20	a14*[2+] (0.44) : y7 (-0.12)
702.4587402	351.6727294922	3.58	
712.2225342	401.9743652344	4.09	b14o[2+] (-0.11)
718.1921997	297.7267456055	3.03	c6 (-0.17)
721.4846191	1018.450378418	10.37	b14[2+] (0.14)
734.1431885	532.5216064453	5.42	y14o[2+] (0.30) : y14*[2+] (-0.18) : z14[2+] (-0.18)
742.9121094	2094.4167480469	21.33	y14[2+] (0.06)
743.7774048	328.7305297852	3.34	
747.5275879	505.7481689453	5.15	
755.3076172	272.8651123047	2.77	
777.6696777	432.0924072266	4.40	b15*[2+] (0.32)
779.6470947	221.0176696777	2.25	
786.0649414	1694.6021728516	17.25	b15[2+] (0.20)
789.0546875	198.2128295898	2.01	
793.505249	249.6879730225	2.54	
804.7298584	411.4122619629	4.18	
812.5979004	645.4207763672	6.57	b16o[2+] (0.22) : b16*[2+] (-0.26)
817.4036865	335.5430908203	3.41	
821.3361816	1171.9975585938	11.93	x15[2+] (-0.02) : b16[2+] (-0.04)
822.0661621	1350.3876953125	13.75	
837.0234375	310.993560791	3.16	
839.3673096	316.7310180664	3.22	y9-98 (-0.08)
857.0291748	2108.1625976563	21.47	b17[2+] (0.12)
857.8365479	597.6917114258	6.08	y16[2+] (-0.05)
865.6567383	305.4468383789	3.11	c17[2+] (0.24)
866.4445801	210.2418518066	2.14	y8 (0.04)
883.2617188	1751.2679443359	17.83	
899.5310059	450.5983276367	4.58	b8 (0.09)
903.1656494	949.116027832	9.66	
906.2084961	411.4477233887	4.19	b18*[2+] (0.30)
907.5992432	3958.3454589844	40.31	x17[2+] (0.19)
908.3806152	1194.1361083984	12.16	
914.6485596	1258.2122802734	12.81	b18[2+] (0.23)
934.3498535	220.0716400146	2.24	
936.7435303	359.2721862793	3.65	

942.1848145	1369.0399169922,	13.94	y18[2+] (0.25)
943.0025635	432.1035461426,	4.40	
963.9055176	345.8616333008,	3.52	
967.3334961	532.8014526367,	5.42	a9* (-0.17)
968.4006348	533.923828125,	5.43	y10-98 (-0.09)
972.1739502	590.0267333984,	6.00	
979.6156006	337.1735839844,	3.43	
995.4127197	397.9575500488,	4.05	b9* (-0.08)
996.5449219	549.4752197266,	5.59	
998.2147217	328.8882141113,	3.34	b20[2+] (-0.24)
999.6484375	448.4721069336,	4.56	
1004.272339	640.5797729492,	6.52	
1012.576172	727.9852905273,	7.41	b9 (0.05)
1026.021362	376.702545166,	3.83	y19o[2+] (0.05) : y19*[2+] (-0.43) : z19[2+] (-0.43)
1029.77356	368.2742004395,	3.75	c9 (0.22)
1030.486206	137.4447021484,	1.39	
1034.937012	113.0552749634,	1.15	y20-98[2+] (0.43) : y19[2+] (-0.03)
1066.603516	596.5753173828,	6.07	y10 (0.12)
1069.226196	1757.3813476563,	17.89	b10 (-0.32)
1070.341675	649.6806640625,	6.61	
1072.227173	3375.662109375,	34.37	
1072.965942	792.1672363281,	8.06	
1083.528809	714.7050170898,	7.27	y20[2+] (0.02)
1098.247192	210.1286315918,	2.14	a22*[2+] (0.26) : a11 (-0.32)
1099.705688	169.2444915771,	1.72	
1110.528442	570.6713867188,	5.81	
1115.749756	668.5572509766,	6.80	
1117.745239	240.9336853027,	2.45	
1129.791016	556.1040039063,	5.66	
1145.191895	464.311126709,	4.72	y11o (-0.33)
1152.33728	648.0306396484,	6.59	y21[2+] (0.30) : y12-98 (-0.24)
1154.368774	730.5165405273,	7.43	
1165.291138	714.1714477539,	7.27	
1176.905151	1860.9321289063,	18.95	b23*[2+] (0.40)
1177.567017	3407.2993164063,	34.70	
1178.309814	718.361328125,	7.31	y22o[2+] (-0.23)
1191.922119	702.1231079102,	7.15	x11 (0.39)
1203.68811	1099.9345703125,	11.20	
1209.892456	9818.9296875,	100	
1210.736206	3101.2966308594,	31.58	
1213.744263	1843.29296875,	18.77	a12 (0.14)
1215.905029	1929.0822753906,	19.64	
1224.542725	752.2476806641,	7.66	b12* (-0.02)

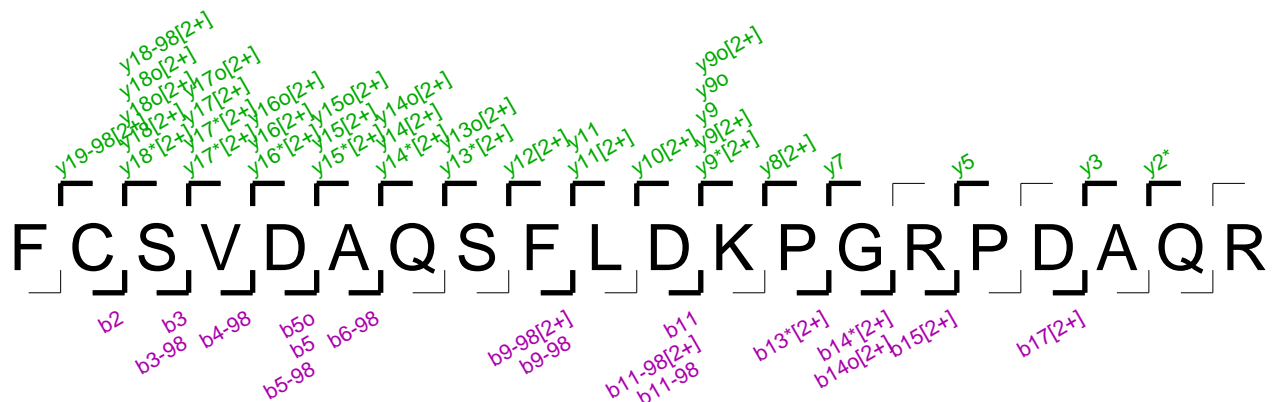
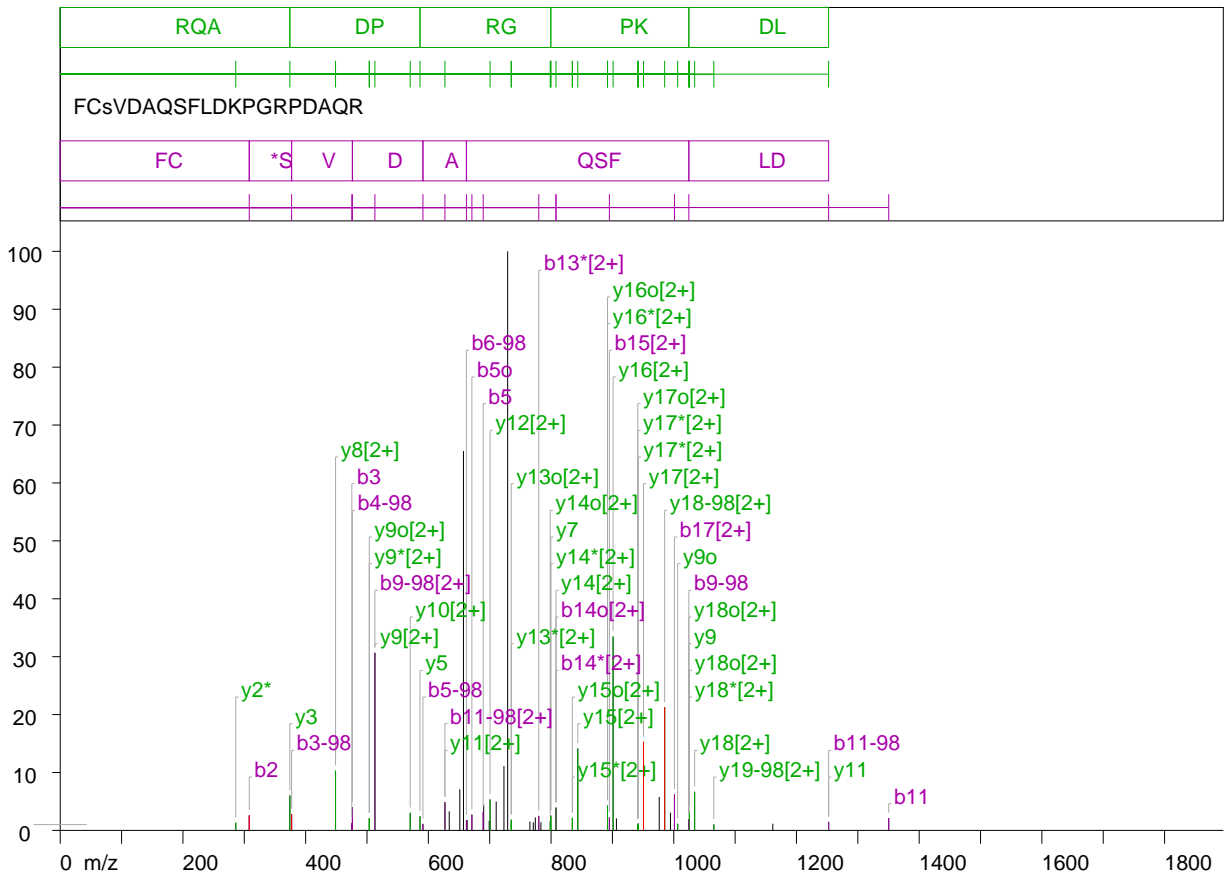
1239.191895	1129.4672851563	11.50	
1239.935425	1399.734375	14.25	
1247.978516	2138.8901367188	21.78	
1248.584351	2976.8547363281	30.31	
1262.780029	1239.3331298828	12.62	
1265.977661	1049.5048828125	10.68	y24o[2+] (0.40) : y24*[2+] (-0.08) : z24[2+] (-0.08)
1271.776001	5174.6440429688	52.70	
1272.617554	2693.1457519531	27.42	
1289.494995	573.7450561523	5.84	y13-98 (-0.14)
1291.833862	556.3817138672	5.66	
1295.761353	4278.0874023438	43.56	
1296.575073	1992.5168457031	20.29	
1306.192871	683.9830932617	6.96	
1318.606323	647.7965087891	6.59	
1324.643677	4580.1337890625	46.64	a26*[2+] (0.56) : a13o (0.01) : y25[2+] (-0.45)
1325.796875	571.1207275391	5.81	a13* (0.18)
1332.531372	350.5002441406	3.56	a26[2+] (-0.06) : y26-98[2+] (-0.12)
1338.633179	1486.1683349609	15.13	b26*[2+] (0.55) : x25[2+] (-0.46)
1339.337158	732.259765625	7.45	x25[2+] (0.23)
1350.348999	344.8430786133	3.51	
1362.456787	768.3057861328	7.82	
1363.342896	384.5501403809	3.91	
1369.776855	242.9897460938	2.47	y13o (0.16)
1370.648438	303.8651428223	3.09	y13* (0.04) : z13 (0.04) : b13 (0.01)
1371.776245	301.9590759277	3.07	
1381.997803	527.8368530273	5.37	y26[2+] (0.35)
1398.952148	164.2594909668	1.67	
1402.893311	165.7969055176	1.68	b27[2+] (-0.24)
1405.805664	153.5837097168	1.56	
1409.614014	207.2634277344	2.11	
1417.832642	167.074005127	1.70	
1422.395264	187.7393493652	1.91	
1430.589966	171.3184356689	1.74	a28o[2+] (-0.06) : a28*[2+] (-0.55)
1432.936523	220.3084106445	2.24	
1441.739502	629.5108032227	6.41	y27o[2+] (0.57) : y27*[2+] (0.07) : z27[2+] (0.07) : b14 (0.06)
1443.75	213.0663909912	2.16	
1451.446777	420.5224609375	4.28	
1461.634644	222.4046630859	2.26	c28[2+] (-0.53)
1462.642944	332.0926513672	3.38	c28[2+] (0.46)
1467.718872	314.6182861328	3.20	y14* (0.06) : z14 (0.06)
1482.513916	217.1944274902	2.21	
1484.415405	545.8784179688	5.55	y14 (-0.26) : y28o[2+] (-0.27)

1485.303345	192.712097168,	1.96	y28*[2+] (0.12) : z28[2+] (0.12)
1493.928223	235.2500305176,	2.39	y28[2+] (0.23) : y29-98[2+] (-0.30)
1494.623413	479.423034668,	4.88	y29-98[2+] (0.39)
1501.106323	129.7427825928,	1.32	
1537.536133	158.3055267334,	1.61	
1544.635498	220.5159606934,	2.24	
1553.406006	166.8407440186,	1.69	a31o[2+] (0.19) : b15* (-0.28) : a31*[2+] (-0.29)
1554.606323	344.6879577637,	3.51	
1555.622559	295.6168518066,	3.01	
1564.294556	144.6536254883,	1.47	
1570.626831	267.148651123,	2.72	b15 (-0.09)
1577.061523	229.0642700195,	2.33	
1588.927368	125.0332336426,	1.27	
1590.165894	112.3862228394,	1.14	
1605.868408	186.5545959473,	1.89	
1609.725586	232.9472045898,	2.37	
1616.163086	103.8276748657,	1.05	
1633.843262	345.9526977539,	3.52	
1641.730103	129.5063171387,	1.31	x15 (0.01) : b16 (-0.02)
1645.092773	162.4115905762,	1.65	b32[2+] (0.35)
1646.969849	178.1039733887,	1.81	
1650.039917	183.942779541,	1.87	
1653.157593	117.980796814,	1.20	c32[2+] (-0.09)
1712.812134	211.2999420166,	2.15	b17 (0.02)
1713.792603	221.4109954834,	2.25	
1720.633911	102.1736373901,	1.04	y32o[2+] (-0.14)
1728.302979	371.0422363281,	3.77	
1744.791382	188.9039764404,	1.92	
1746.923828	164.0008239746,	1.67	
1787.094116	99.2410888672,	1.01	
1788.608154	147.6708679199,	1.50	
1810.521606	130.1268920898,	1.32	b18* (-0.27)
1825.780029	142.1108551025,	1.44	b35o[2+] (-0.04) : b35*[2+] (-0.53)
1827.761841	1245.5180664063,	12.68	b18 (-0.05) : x34[2+] (-0.06)
1828.751221	1219.1279296875,	12.41	
1829.765137	406.6859741211,	4.14	
1830.682007	422.4458007813,	4.30	

S2140

# ProPhosSI MS/MS report

Mass: 792.029052734375 Charge: 3+





## Cav3.2 Rat

(64) 2138 FCsVDAQSFLDKPGRPDAQR 2157 2373.057 (0.0063) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(2140)	Phospho (ST)	b2 => b3-98 : y17[2+] => y18-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b2 to b3-98, transition y17[2+] to y18-98[2+] support unique phosphorylation at position 3  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b2 to b5-98. Sequence of four y ions found from y7 to y10.
Five of six sequential ions present	1/1	Five of Six ions found between b1 and b6 Five of Six ions found between b2 and b7 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13 Five of Six ions found between y9 and y14 Five of Six ions found between y10 and y15 Five of Six ions found between y11 and y16 Five of Six ions found between y12 and y17 Five of Six ions found between y13 and y18 Five of Six ions found between y14 and y19 Five of Six ions found between y15 and y20
Proline directed fragmentation pattern	2/2	PASS: y8> y7 with ratio 4.02  No proline ions at b13-98  PASS: y5> y4  No proline ions at b16-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	6/6	ion 1 (mass: 729.2733154: intensity: 73467.46875) assigned 0 times ion 2 (mass: 657.2333374: intensity: 48140.0703125) assigned 0 times ion 3 (mass: 901.1086426: intensity: 24597.75) assigned 1 times ion 4 (mass: 512.9051514: intensity: 22532.443359375) assigned 2 times ion 5 (mass: 985.1512451: intensity: 15616.8916015625) assigned 1 times ion 6 (mass: 950.6828613: intensity: 11243.8359375) assigned 1 times ion 7 (mass: 843.5712891: intensity: 10390.8046875) assigned 2 times ion 8 (mass: 723.2044678: intensity: 8172.6713867188) assigned 0 times ion 9 (mass: 448.7330933: intensity: 7575.58984375) assigned 1 times ion 10 (mass: 651.2639771: intensity: 5224.220703125) assigned 0 times

## Ion Table

41 ions assigned of 56 ions above threshold (73%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
F	1	148.076	131.049	-	130.065
C	2	308.106 *308.0829773 (2)	291.080	-	290.096
s	3	475.105 475.2364502 (1)	458.078	377.119 377.145752 (2)	457.094
V	4	574.173	557.147	476.187 476.1846008 (4)	556.163
D	5	689.200 689.4124146 (3)	672.174	591.214 *591.1883545 (1)	671.190 670.9814453 (2)
A	6	760.237	743.211	662.251 *662.0357056 (1)	742.227
Q	7	888.296	871.269	790.310	870.285
S	8	975.328	958.301	877.342	957.317
F	9	1122.396	1105.370	1024.410 *512.9051514 [2+] (30) *1024.579224 (1)	1104.386
L	10	1235.480	1218.454	1137.494	1217.470
D	11	1350.507 1350.379517 (2)	1333.481	1252.521 *627.0083618 [2+] (4) *1252.416016 (1)	1332.497
K	12	1478.602	1461.576	1380.616	1460.592
P	13	1575.655	1558.628 779.9871826 [2+] (2)	1477.669	1557.644
G	14	1632.676	1615.650 *808.0158691 [2+] (3)	1534.691	1614.666 *808.0158691 [2+] (3)
R	15	1788.778 895.0892334 [2+] (2)	1771.751	1690.792	1770.767
P	16	1885.830	1868.804	1787.844	1867.820
D	17	2000.857 1001.099731 [2+] (6)	1983.831	1902.871	1982.847
A	18	2071.894	2054.868	1973.909	2053.884
Q	19	2199.953	2182.926	2101.967	2181.942
R	20	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
F	20	-	-	-	-
C	19	2226.996	2209.970	2129.010 1065.251465 [2+] (1)	2208.986
s	18	2066.966 1034.029663 [2+] (6)	2049.939 *1025.490967 [2+] (3)	1968.980 985.1512451 [2+] (21)	2048.955 *1024.579224 [2+] (1) *1025.490967 [2+] (3)
V	17	1899.967 950.6828613 [2+] (15)	1882.941 *942.1848145 [2+] (1) *941.3969727 [2+] (1)	-	1881.957 *941.3969727 [2+] (1)
D	16	1800.899 901.1086426 [2+] (33)	1783.872 *892.0495605 [2+] (4)	-	1782.888 *892.0495605 [2+] (4)
A	15	1685.872 *843.5712891 [2+] (14)	1668.845 *834.743042 [2+] (2)	-	1667.861 *834.743042 [2+] (2)
Q	14	1614.835 *808.0158691 [2+] (3)	1597.808 *799.6242676 [2+] (2)	-	1596.824 798.7033691 [2+] (1)
S	13	1486.776	1469.750 *735.1331787 [2+] (1)	-	1468.766 *735.1331787 [2+] (1)

F	12	1399.744 700.6144409 [2+] (5)	1382.718	-	1381.734
L	11	1252.676 *627.0083618 [2+] (4) *1252.416016 (1)	1235.649	-	1234.665
D	10	1139.592 *570.4623413 [2+] (3)	1122.565	-	1121.581
K	9	1024.565 *512.9051514 [2+] (30) *1024.579224 (1)	1007.538 *503.7305298 [2+] (2)	-	1006.554 1006.384644 (1) *503.7305298 [2+] (2)
P	8	896.470 448.7330933 [2+] (10)	879.443	-	878.459
G	7	799.417 *799.6242676 (2)	782.390	-	781.406
R	6	742.396	725.369	-	724.385
P	5	586.294 586.4136963 (2)	569.268	-	568.284
D	4	489.242	472.215	-	471.231
A	3	374.215 374.2678223 (6)	357.188	-	356.204
Q	2	303.178	286.151 *286.1059875 (1)	-	285.167
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	130	63	48
0.5	73	48	65
1	56	41	73
2	38	28	73
3	26	17	65
4	20	13	65
5	15	10	66
10	9	6	66

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
286.1059875	974.1842651367 <sub>5</sub>	1.32	y2* (-0.04) : z2 (-0.04)
308.0829773	1899.8778076172 <sub>5</sub>	2.58	x5[2+] (0.43) : b2 (-0.02)
374.2678223	4443.68359375 <sub>5</sub>	6.04	y3 (0.05)
377.145752	2068.8461914063 <sub>5</sub>	2.81	b3-98 (0.02)
448.7330933	7575.58984375 <sub>5</sub>	10.31	y8[2+] (-0.00)
475.2364502	947.9268188477 <sub>5</sub>	1.29	b3 (0.13)
476.1846008	2952.310546875 <sub>5</sub>	4.01	b4-98 (-0.00)
503.7305298	1545.9370117188 <sub>5</sub>	2.10	y9o[2+] (-0.05) : y9*[2+] (-0.54) : z9[2+] (-0.54)
512.9051514	22532.443359375 <sub>5</sub>	30.66	b9-98[2+] (0.19) : y9[2+] (0.11)
570.4623413	2229.6989746094 <sub>5</sub>	3.03	c9[2+] (0.24) : y10[2+] (0.16)
586.4136963	1790.0126953125 <sub>5</sub>	2.43	y5 (0.11)

591.1883545	834.2610473633,	1.13	c4 (-0.01) : b5-98 (-0.02)
627.0083618	3592.6420898438,	4.89	c10[2+] (0.25) : b11-98[2+] (0.24) : y11[2+] (0.16)
634.0695801	2418.1518554688,	3.29	
651.2639771	5224.220703125,	7.11	
657.2333374	48140.0703125,	65.52	
662.0357056	1267.0261230469,	1.72	a11[2+] (0.27) : b6-98 (-0.21)
663.2822266	1332.8712158203,	1.81	
670.9814453	2006.529296875,	2.73	b5o (-0.20)
689.4124146	2314.1645507813,	3.14	b5 (0.21)
690.1801758	3261.8449707031,	4.43	
699.1901245	1218.8623046875,	1.65	
700.6144409	3932.0483398438,	5.35	y12[2+] (0.23)
710.5640869	3658.5620117188,	4.97	
723.2044678	8172.6713867188,	11.12	
729.2733154	73467.46875,	100	
735.1331787	1351.1003417969,	1.83	y13o[2+] (0.24) : y13*[2+] (-0.24) : z13[2+] (-0.24)
765.5089111	1115.9924316406,	1.51	a13o[2+] (0.17) : a13*[2+] (-0.31)
771.0776367	1023.6697998047,	1.39	
774.3555908	1642.5144042969,	2.23	a13[2+] (0.02)
779.9871826	1845.7575683594,	2.51	b13*[2+] (0.16)
783.4699707	1036.4503173828,	1.41	
798.7033691	1165.8005371094,	1.58	y14o[2+] (-0.21)
799.6242676	1883.2327880859,	2.56	y14*[2+] (0.21) : z14[2+] (0.21) : y7 (0.20)
808.0158691	2881.1079101563,	3.92	b14o[2+] (0.17) : y14[2+] (0.09) : b14*[2+] (-0.31)
834.743042	1585.2979736328,	2.15	y15o[2+] (0.30) : y15*[2+] (-0.18) : z15[2+] (-0.18)
843.5712891	10390.8046875,	14.14	a7* (0.29) : y15[2+] (0.13)
892.0495605	3151.5329589844,	4.28	y16o[2+] (0.10) : y16*[2+] (-0.39) : z16[2+] (-0.39)
895.0892334	1652.1293945313,	2.24	b15[2+] (0.19)
901.1086426	24597.75,	33.48	y16[2+] (0.15)
906.5185547	1526.7287597656,	2.07	
941.3969727	762.6462402344,	1.03	y17o[2+] (-0.08) : y17*[2+] (-0.57) : z17[2+] (-0.57)
942.1848145	900.0485839844,	1.22	y17*[2+] (0.21) : z17[2+] (0.21)
950.6828613	11243.8359375,	15.30	y17[2+] (0.19)
976.3186035	4248.3325195313,	5.78	
985.1512451	15616.8916015625,	21.25	y18-98[2+] (0.15)
994.6170654	2248.2019042969,	3.06	
1001.099731	4569.3833007813,	6.21	b17[2+] (0.16)
1006.384644	842.6565551758,	1.14	y9o (-0.17)
1024.579224	1424.1448974609,	1.93	b9-98 (0.16) : y9 (0.01) : y18o[2+] (-0.40)
1025.490967	2424.359375,	3.29	y18o[2+] (0.50) : y18*[2+] (0.01) : z18[2+] (0.01)
1034.029663	4897.896484375,	6.66	y18[2+] (0.04)
1065.251465	766.842590332,	1.04	y19-98[2+] (0.24)
1161.442871	848.2239990234,	1.15	

1252.416016	1076.7916259766,	1.46	c10 (-0.09) : b11-98 (-0.10) : y11 (-0.26)
1350.379517	1569.7095947266,	2.13	b11 (-0.12)

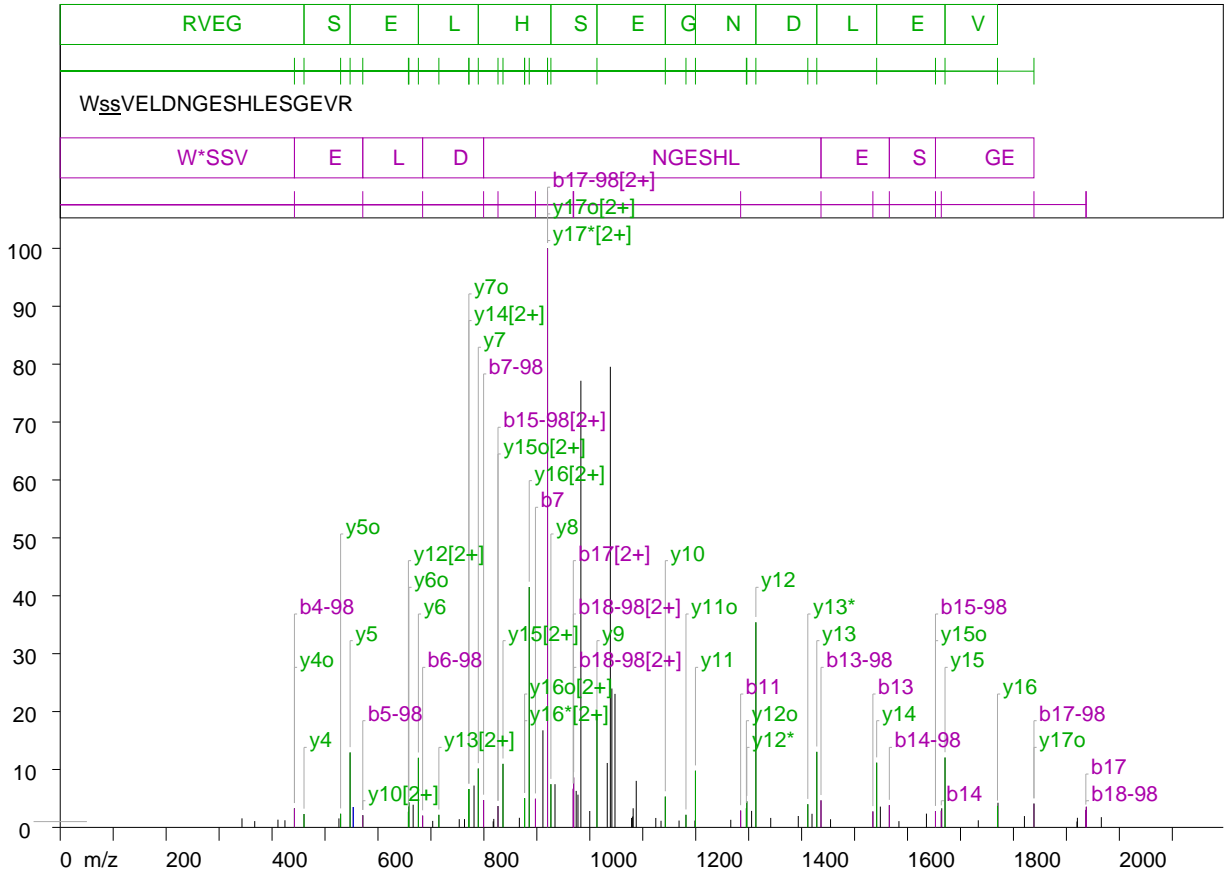
S2159

or

S2160

# ProPhosSI MS/MS report

Mass: 1105.478393554688 Charge: 2+



W S S V E L D N G E S H L E S G E V R

Labels for b and y ions are positioned below the sequence:

- b4-98, b5-98, b6-98, b7-98, b7
- b11
- b13-98, b13, b14-98, b14, b15-98, b15-98[2+]
- b17-98[2+], b17-98, b18-98[2+], b17, b18-98

## Cav3.2 Rat

(82) 2158 W<sub>ss</sub>VELDNGESHLESGEVR 2176 2208.932 (0.0086) Da

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
2 or 3	(2159 or 2160)	Phospho (ST)	b6-98, b7-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	9 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	b6-98, b7-98 support phosphorylation at position 2 or 3  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b4-98 to b7-98. Sequence of four y ions found from y4 to y7.
Five of six sequential ions present	1/1	Five of Six ions found between b13 and b18 Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13 Five of Six ions found between y9 and y14 Five of Six ions found between y10 and y15 Five of Six ions found between y11 and y16 Five of Six ions found between y12 and y17
Proline directed fragmentation pattern	0/0	
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 920.2125244: intensity: 31640.0234375) assigned 4 times ion 2 (mass: 1038.792725: intensity: 25169.455078125) assigned 0 times ion 3 (mass: 983.1625977: intensity: 24405.22265625) assigned 1 times ion 4 (mass: 885.6448975: intensity: 13134.2109375) assigned 1 times ion 5 (mass: 1313.587524: intensity: 11205.7109375) assigned 1 times ion 6 (mass: 1041.688965: intensity: 7588.2602539063) assigned 1 times ion 7 (mass: 1047.586426: intensity: 7296.056640625) assigned 0 times ion 8 (mass: 1013.508789: intensity: 6180.7280273438) assigned 1 times ion 9 (mass: 911.4976807: intensity: 5303.6552734375) assigned 0 times ion 10 (mass: 1428.648071: intensity: 4128.0498046875) assigned 1 times

### Ion Table

48 ions assigned of 64 ions above threshold (75%).



## N-terminal ions

AA	N-ion	b	b*	b-98	bo
W	1	187.087	170.060	-	169.076
s	2	354.085	337.058	256.099	336.074
S	3	441.117	424.090	343.131	423.106
V	4	540.185	523.159	442.200 *442.241394 (3)	522.175
E	5	669.228	652.201	571.242 *571.3088379 (2)	651.217
L	6	782.312	765.286	684.326 684.3197021 (2)	764.302
D	7	897.339 897.3726807 (4)	880.313	799.353 *799.4755859 (4)	879.328
N	8	1011.382	994.355	913.396	993.371
G	9	1068.403	1051.377	970.418	1050.393
E	10	1197.446	1180.42	1099.460	1179.435
S	11	1284.478 1284.861328 (2)	1267.452	1186.492	1266.468
H	12	1421.537	1404.510	1323.551	1403.526
L	13	1534.621 1534.574097 (2)	1517.595	1436.635 1436.594727 (4)	1516.610
E	14	1663.664 1663.724121 (2)	1646.637	1565.678 1565.639404 (3)	1645.653
S	15	1750.696	1733.669	1652.710 *1652.740112 (2) *826.6634521 [2+] (3)	1732.685
G	16	1807.717	1790.691	1709.731	1789.707
E	17	1936.760 *968.8349609 [2+] (6) 1936.686035 (3)	1919.733	1838.774 *920.2125244 [2+] (100) *1838.726685 (4)	1918.749
V	18	2035.828	2018.802	1937.842 *968.8349609 [2+] (6) 969.5231934 [2+] (8) 1937.594849 (3)	2017.818
R	19	-	-	-	-

## C-terminal ions

AA	C-ion	y	y*	y-98	yo
W	19	-	-	-	-
s	18	2023.861	2006.834	1925.875	2005.850
S	17	1856.862	1839.836 *920.2125244 [2+] (100)	-	1838.852 *920.2125244 [2+] (100) *1838.726685 (4)
V	16	1769.830 885.6448975 [2+] (41) 1769.880859 (3)	1752.804 *876.8533936 [2+] (5)	-	1751.820 *876.8533936 [2+] (5)
E	15	1670.762 1670.786255 (12) 836.0961914 [2+] (10)	1653.735	-	1652.751 *1652.740112 (2) *826.6634521 [2+] (3)
L	14	1541.719 1541.711426 (11) *771.6784668 [2+] (6)	1524.693	-	1523.709
D	13	1428.635 715.0061035 [2+] (2) 1428.648071 (13)	1411.609 *1411.6604 (4)	-	1410.625
N	12	1313.608 657.458252 [2+] (2) 1313.587524 (35)	1296.582 *1296.52771 (4)	-	1295.598 1295.66687 (3)

G	11	1199.565 1199.544067 (9)	1182.539	-	1181.555 1181.610107 (2)
E	10	1142.544 *571.3088379 [2+] (2) 1142.599976 (5)	1125.517	-	1124.533
S	9	1013.501 1013.508789 (19)	996.475	-	995.491
H	8	926.469 926.5155029 (7)	909.443	-	908.459
L	7	789.410 789.4371338 (10)	772.384	-	771.400 *771.6784668 (6)
E	6	676.326 676.3398438 (12)	659.300	-	658.316 658.3678589 (4)
S	5	547.284 547.3872681 (12)	530.257	-	529.273 529.4467163 (2)
G	4	460.251 460.3409424 (2)	443.225	-	442.241 *442.241394 (3)
E	3	403.230	386.203	-	385.219
V	2	274.187	257.161	-	256.177
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	160	76	47
0.5	126	69	54
1	91	61	67
2	64	47	73
3	49	35	71
4	36	27	75
5	29	21	72
10	17	13	76

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
343.2074585	493.7665405273 <sub>s</sub>	1.56	b6-98[2+] (0.54) : b3-98 (0.07) : c5[2+] (-0.42)
367.2773132	344.213470459 <sub>s</sub>	1.08	
411.1265869	422.0762939453 <sub>s</sub>	1.33	
424.3180542	389.1141662598 <sub>s</sub>	1.22	b3* (0.22)
442.241394	1039.8560791016 <sub>s</sub>	3.28	b4-98 (0.04) : y4o (-4.10)
460.3409424	730.4138793945 <sub>s</sub>	2.30	y4 (0.08)
526.2937012	491.1900939941 <sub>s</sub>	1.55	b9o[2+] (0.59) : b9*[2+] (0.10)
529.4467163	744.7546386719 <sub>s</sub>	2.35	y5o (0.17)
547.3872681	4094.4716796875 <sub>s</sub>	12.94	y5 (0.10)
553.3226929	1111.9011230469 <sub>s</sub>	3.51	
571.3088379	663.4938964844 <sub>s</sub>	2.09	b5-98 (0.06) : y10[2+] (-0.46)
657.458252	853.4836425781 <sub>s</sub>	2.69	y12[2+] (0.15)
658.3678589	1368.7294921875 <sub>s</sub>	4.32	y6o (0.05)

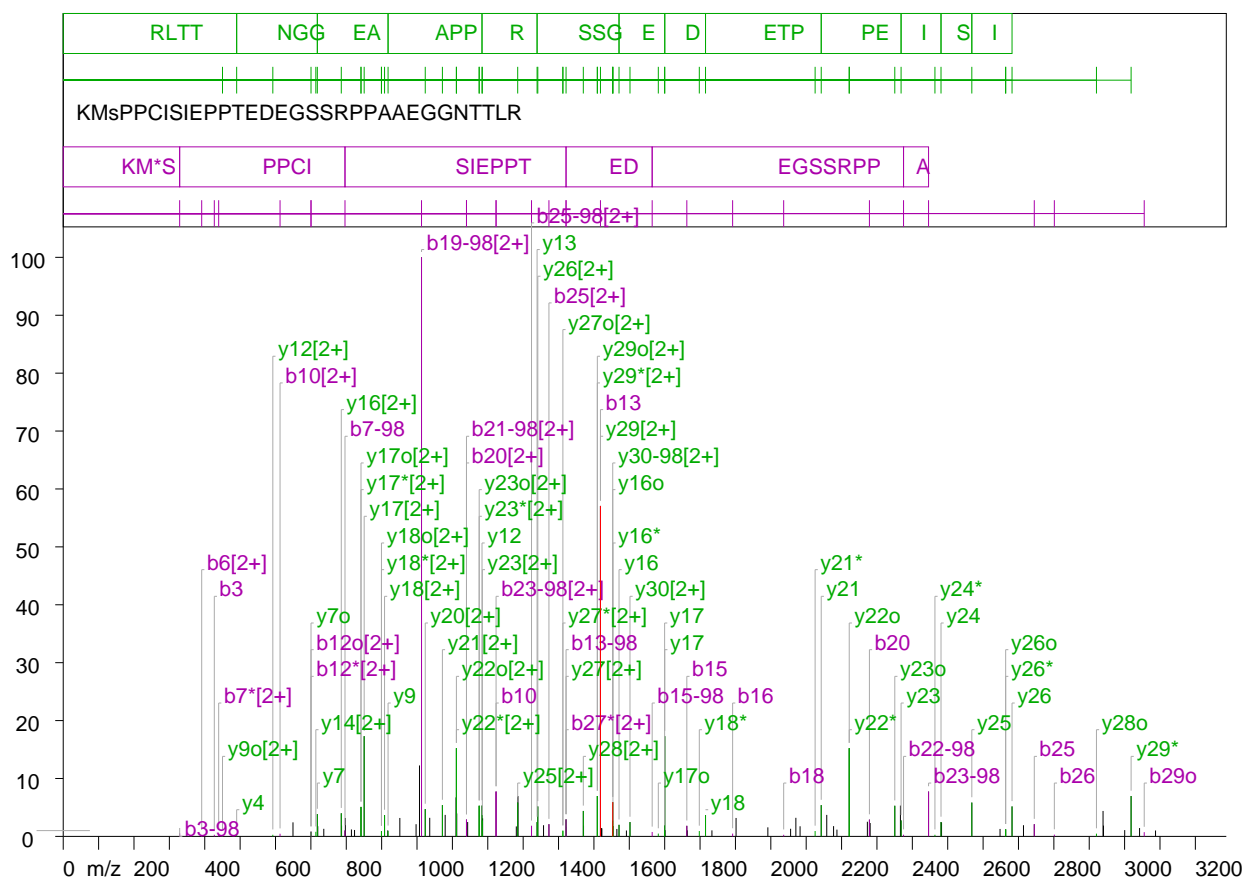
666.4580688	1238.9814453125	3.91	
676.3398438	3801.4255371094	12.01	y6 (0.01)
684.3197021	643.3551025391	2.03	b6-98 (-0.00)
703.3656006	355.5440673828	1.12	
715.0061035	686.1969604492	2.16	y13[2+] (0.18)
753.4667969	449.7402954102	1.42	a13[2+] (-0.35)
763.3782349	452.7930297852	1.43	y14*[2+] (0.52) : z14[2+] (0.52)
771.6784668	2098.1103515625	6.63	y14[2+] (0.31) : y7o (0.27)
781.3804321	2287.2585449219	7.22	
789.4371338	3215.8603515625	10.16	y7 (0.02)
799.4755859	1494.1215820313	4.72	c6 (0.13) : b7-98 (0.12)
817.6102295	330.5139160156	1.04	x7 (0.20)
818.6966553	463.8697509766	1.46	a14[2+] (0.35)
826.6634521	1163.5861816406	3.67	b15-98[2+] (-0.19) : y15o[2+] (-0.21)
836.0961914	3472.7626953125	10.97	y15[2+] (0.21)
867.0054932	524.3927001953	1.65	b15o[2+] (0.15) : b15*[2+] (-0.33)
876.8533936	1593.998046875	5.03	y16o[2+] (0.43) : y16*[2+] (-0.05) : z16[2+] (-0.05)
885.6448975	13134.2109375	41.51	y16[2+] (0.22)
897.3726807	1564.3291015625	4.94	b7 (0.03)
911.4976807	5303.6552734375	16.76	
920.2125244	31640.0234375	100	b17-98[2+] (0.32) : y17o[2+] (0.28) : y17*[2+] (-0.20) : z17[2+] (-0.20)
926.5155029	2358.8310546875	7.45	y8 (0.04)
934.2750244	2361.2819824219	7.46	
968.8349609	2111.7446289063	6.67	b17[2+] (-0.04) : b18-98[2+] (-0.59)
969.5231934	2728.7707519531	8.62	b18-98[2+] (0.09)
974.3029785	1993.4410400391	6.30	
977.6455078	1788.4710693359	5.65	c17[2+] (0.24)
983.1625977	24405.22265625	77.13	a8 (-0.22)
999.907959	895.6212768555	2.83	
1013.508789	6180.7280273438	19.53	y9 (0.00)
1032.950928	3520.8442382813	11.12	
1038.792725	25169.455078125	79.54	
1041.688965	7588.2602539063	23.98	x9 (0.19)
1047.586426	7296.056640625	23.05	
1078.880737	518.1544189453	1.63	
1080.904907	594.7745361328	1.87	
1081.881592	1045.4393310547	3.30	
1087.691772	2543.0361328125	8.03	
1124.632935	515.6243896484	1.62	y10o (0.09)
1134.504639	362.2069702148	1.14	
1142.599976	1683.1403808594	5.31	y10 (0.05)
1168.562744	373.3954162598	1.18	

1181.610107	688.3700561523,	2.17	y11o (0.05)
1198.510254	372.8473205566,	1.17	
1199.544067	3095.3076171875,	9.78	y11 (-0.02)
1266.192017	415.2008666992,	1.31	b11o (-0.27)
1284.861328	920.0650024414,	2.90	b11 (0.38)
1295.66687	1045.9750976563,	3.30	y12o (0.06)
1296.52771	1427.2393798828,	4.51	y12* (-0.05) : z12 (-0.05)
1305.560547	902.6091918945,	2.85	
1313.587524	11205.7109375,	35.41	y12 (-0.02)
1341.642944	517.7131347656,	1.63	x12 (0.03)
1393.658447	622.7503051758,	1.96	a12 (0.11)
1411.6604	1265.9016113281,	4.00	y13* (0.05) : z13 (0.05)
1419.640137	744.2537231445,	2.35	
1428.648071	4128.0498046875,	13.04	y13 (0.01)
1436.594727	1477.8366699219,	4.67	b13-98 (-0.04)
1454.598999	445.9414672852,	1.40	
1534.574097	871.2125854492,	2.75	b13 (-0.04)
1541.711426	3535.4965820313,	11.17	y14 (-0.00)
1548.658203	1136.2373046875,	3.59	
1565.639404	1213.7650146484,	3.83	b14-98 (-0.03)
1583.7854	341.3573303223,	1.07	
1635.710571	752.2910766602,	2.37	a14 (0.04)
1652.740112	891.3295898438,	2.81	b15-98 (0.02) : y15o (-0.01)
1663.724121	913.4253540039,	2.88	b14 (0.05)
1664.606812	1045.3355712891,	3.30	
1670.786255	3816.4296875,	12.06	y15 (0.02)
1733.61438	387.9171447754,	1.22	b15* (-0.05)
1769.880859	1172.7219238281,	3.70	y16 (0.05)
1770.761108	1347.0482177734,	4.25	
1820.735962	618.0715332031,	1.95	
1838.726685	1296.6644287109,	4.09	b17-98 (-0.04) : y17o (-0.12)
1919.970825	321.3828430176,	1.01	b17* (0.23)
1920.779541	525.0307006836,	1.65	
1936.686035	953.3490600586,	3.01	b17 (-0.07)
1937.594849	1128.8596191406,	3.56	b18-98 (-0.24)
1965.926025	559.6905517578,	1.76	

S2195

# ProPhosSI MS/MS report

Mass: 1154.528853 Charge: 3+



KMS

b3  
b3-98

PPPCISIEPPTEDGSSRPPAAEGGN

b6[2+]  
b7\*[2+]  
b7-98

b10[2+]  
b10

b12\*[2+]  
b12-98  
b13-98

b15-98  
b16

b18  
b19-98[2+]  
b20[2+]  
b21-98[2+]

b22-98  
b23-98  
b23-98[2+]

b25  
b25[2+]  
b25-98[2+]  
b26  
b27\*[2+]

TTLR

b290

## Cav3.2 Rat

(57) 2193 KMsPPCISIEPPTTEDEGSSRPPAAEGGNTTLR 2224 3460.564 (-0.0010) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(2195)	Phospho (ST)	b3-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	10 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	
Four Sequential b or y ions	1/1	Sequence of four y ions found from y23 to y26.
Five of six sequential ions present	1/1	Five of Six ions found between y12 and y17 Five of Six ions found between y13 and y18 Five of Six ions found between y16 and y21 Five of Six ions found between y20 and y25 Five of Six ions found between y21 and y26 Five of Six ions found between y22 and y27 Five of Six ions found between y23 and y28 Five of Six ions found between y24 and y29 Five of Six ions found between y25 and y30 Five of Six ions found between y26 and y31
Proline directed fragmentation pattern	6/8	NOTE: S-P is a low abundance fragmentation. PASS: y29> y28 with ratio 12.9  PASS: b4-98< b3-98  NOTE: P-P is a low abundance fragmentation. PASS: y28> y27 with ratio 1.50  No proline ions at b5-98  FAIL: y22< y21 No proline ions at b11-98  NOTE: P-P is a low abundance fragmentation. PASS: y21> y20 with ratio 1.14  No proline ions at b12-98  PASS: y12> y11  FAIL: b21-98> b20-98 NOTE: P-P is a low abundance fragmentation. No proline ions at y11 PASS: b22-98< b21-98 with ratio 10.0 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	9/6	ion 1 (mass: 1012.706: intensity: 25392.58) assigned 1 times ion 2 (mass: 1518.512: intensity: 14491.22) assigned 2 times ion 3 (mass: 850.632: intensity: 4395.84) assigned 1 times ion 4 (mass: 1700.258: intensity: 4395.84) assigned 1 times ion 5 (mass: 2221.642: intensity: 3869.37) assigned 3 times ion 6 (mass: 1111.324: intensity: 3869.37) assigned 4 times ion 7 (mass: 1007.009: intensity: 3111.19) assigned 0 times ion 8 (mass: 2445.887: intensity: 1965.96) assigned 1 times ion 9 (mass: 1223.447: intensity: 1965.96) assigned 3 times ion 10 (mass: 1285.287: intensity: 1771.18)

-	-	assigned 2 times
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## Ion Table

76 ions assigned of 157 ions above threshold (48%).

N-terminal ions

AA	N-ion	b	b*	b-98	bo
K	1	129.102	112.076	-	111.092
M	2	260.143	243.116	-	242.132
s	3	427.141 427.027 (0)	410.115	329.155 329.086 (0)	409.131
P	4	524.194	507.167	426.208	506.183
P	5	621.247	604.220	523.261	603.236
C	6	781.277 391.385 [2+] (0)	764.251	683.291	763.267
I	7	894.361	877.335 439.366 [2+] (0)	796.375 796.412 (1)	876.351
S	8	981.393	964.367	883.408	963.383
I	9	1094.477	1077.451	996.492	1076.467
E	10	1223.520 612.829 [2+] (0) *1223.447 (7)	1206.494	1125.534	1205.510
P	11	1320.573	1303.546	1222.587	1302.562
P	12	1417.626	1400.599 *700.365 [2+] (0)	1319.640	1399.615 *700.365 [2+] (0)
T	13	1518.673 *1518.512 (57)	1501.647	1420.687 *1421.247 (2)	1500.663
E	14	1647.716	1630.689	1549.730	1629.705
D	15	1762.743 1762.620 (1)	1745.716	1664.757 *1664.652 (0)	1744.732
E	16	1891.785 1892.015 (0)	1874.759	1793.800	1873.775
G	17	1948.807	1931.780	1850.821	1930.796
S	18	2035.839 2036.335 (0)	2018.812	1937.853	2017.828
S	19	2122.871	2105.844	2024.885 1012.706 [2+] (100)	2104.860
R	20	2278.972 *1139.844 [2+] (2) 2278.681 (2)	2261.946	2180.986	2260.962
P	21	2376.025	2358.998	2278.039 *1139.844 [2+] (2)	2358.014
P	22	2473.078	2456.051	2375.092 2375.113 (0)	2455.067
A	23	2544.115	2527.088	2446.129 2445.887 (7) *1223.447 [2+] (7)	2526.104
A	24	2615.152	2598.125	2517.166	2597.141
E	25	2744.194 2744.663 (2) *1372.835 [2+] (2)	2727.168	2646.209 1323.624 [2+] (1)	2726.184
G	26	2801.216 2801.391 (0)	2784.189	2703.230	2783.205
G	27	2858.237	2841.211 *1421.247 [2+] (2)	2760.252	2840.227
N	28	2972.280	2955.254	2874.294	2954.270
T	29	3073.328	3056.301	2975.342	3055.317



-	-	-	-	-	3055.418 (0)
T	30	3174.376	3157.349	3076.390	3156.365
L	31	3287.460	3270.433	3189.474	3269.449
R	32	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
K	32	-	-	-	-
M	31	3333.476	3316.450	3235.491	3315.466
s	30	3202.436 *1601.965 [2+] (2)	3185.409	3104.450 *1553.136 [2+] (5)	3184.425
P	29	3035.438 *1518.512 [2+] (57)	3018.411 *3018.383 (6) *1509.695 [2+] (6)	-	3017.427 *1509.695 [2+] (6)
P	28	2938.385 1470.014 [2+] (4)	2921.358	-	2920.374 2920.429 (0)
C	27	2841.332 *1421.247 [2+] (2)	2824.306 *1412.260 [2+] (0)	-	2823.322 *1412.260 [2+] (0)
I	26	2681.301 1341.401 [2+] (5) 2681.795 (5)	2664.275 *2663.816 (1)	-	2663.291 *2663.816 (1)
S	25	2568.217 *1284.577 [2+] (5) 2568.147 (5)	2551.191	-	2550.207
I	24	2481.185 2481.066 (2)	2464.159 *2463.911 (0)	-	2463.175
E	23	2368.101 2368.206 (2) 1184.607 [2+] (2)	2351.075 *1175.712 [2+] (5)	-	2350.091 *1175.712 [2+] (5) 2350.416 (5)
P	22	2239.059	2222.032 *2221.642 (15) *1111.324 [2+] (15)	-	2221.048 *2221.642 (15) *1111.324 [2+] (15)
P	21	2142.006 2142.478 (5) 1071.743 [2+] (5)	2124.979 *2125.219 (0)	-	2123.995
T	20	2044.953 1023.236 [2+] (4)	2027.927	-	2026.943
E	19	1943.905	1926.879	-	1925.895
D	18	1814.863 908.235 [2+] (3) 1815.463 (3)	1797.836 *899.454 [2+] (0) *1797.901 (0)	-	1796.852 *899.454 [2+] (0)
E	17	1699.836 850.632 [2+] (17) 1700.258 (17) 1699.776 (0)	1682.809 *841.662 [2+] (5)	-	1681.825 *841.662 [2+] (5) 1681.975 (0)
G	16	1570.793 1570.933 (1) 785.945 [2+] (3)	1553.767 *1553.808 (1)	-	1552.783 *1553.136 (5)
S	15	1513.772	1496.745	-	1495.761
S	14	1426.740 714.037 [2+] (0)	1409.713	-	1408.729
R	13	1339.708 1339.341 (2)	1322.681	-	1321.697
P	12	1183.607 592.428 [2+] (0) 1183.660 (5)	1166.580	-	1165.596
P	11	1086.554	1069.527	-	1068.543
A	10	989.501	972.475	-	971.491
A	9	918.464 918.177 (0)	901.437	-	900.453 450.183 [2+] (0)

E	8	847.427	830.400	-	829.416
G	7	718.384 *718.269 (3)	701.358	-	700.374 *700.365 (0)
G	6	661.363	644.336	-	643.352
N	5	604.341	587.315	-	586.331
T	4	490.298 490.222 (0)	473.272	-	472.288
T	3	389.251	372.224	-	371.240
L	2	288.203	271.177	-	270.193
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	158	76	48
0.5	113	61	53
1	91	48	52
2	57	39	68
3	41	29	70
4	28	24	85
5	25	22	88
10	7	6	85

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
649.366	616.11 <sub>1</sub>	2.42	
718.269	976.16 <sub>1</sub>	3.84	c12[2+] (0.43) : y7 (-0.11)
719.430	447.03 <sub>1</sub>	1.76	
736.467	332.42 <sub>1</sub>	1.30	a6* (0.21) : a13o[2+] (-0.37)
785.945	1013.76 <sub>1</sub>	3.99	y16[2+] (0.04)
786.700	471.75 <sub>1</sub>	1.85	
796.412	258.49 <sub>1</sub>	1.01	b7-98 (0.03)
797.419	808.35 <sub>1</sub>	3.18	
814.547	304.35 <sub>1</sub>	1.19	
823.395	281.81 <sub>1</sub>	1.10	
841.662	1292.58 <sub>1</sub>	5.09	y17o[2+] (0.24) : y17*[2+] (-0.24) : z17[2+] (-0.24)
850.632	4395.84 <sub>1</sub>	17.31	y17[2+] (0.20)
908.235	933.35 <sub>1</sub>	3.67	y18[2+] (0.29)
917.293	263.98 <sub>1</sub>	1.03	
951.402	808.63 <sub>1</sub>	3.18	a17o[2+] (-0.50)
997.350	534.63 <sub>1</sub>	2.10	
1007.009	3111.19 <sub>1</sub>	12.25	
1012.706	25392.58 <sub>1</sub>	100	b19-98[2+] (-0.24)
1023.236	1198.59 <sub>1</sub>	4.72	y20[2+] (0.25)

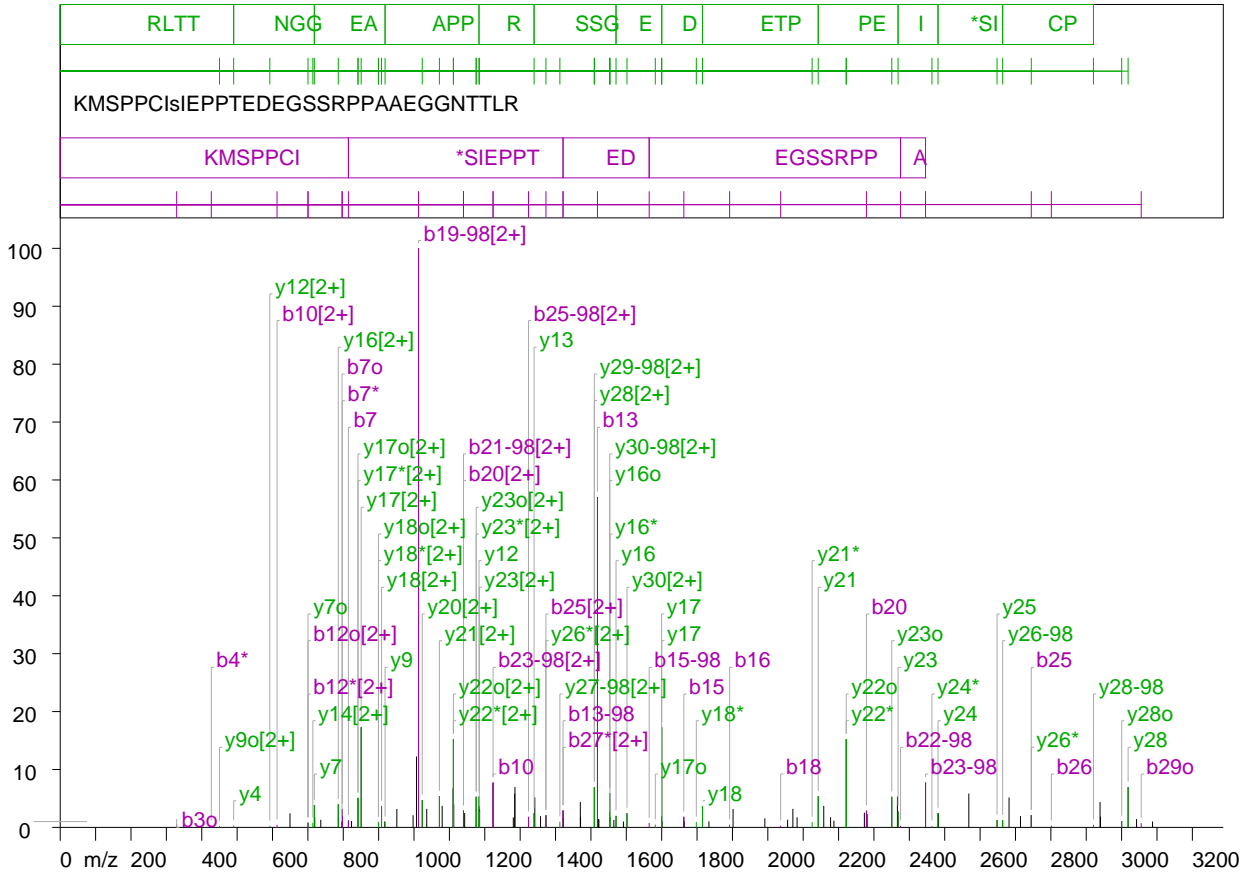
1035.899	814.66 <sub>3</sub>	3.20	
1071.743	1370.74 <sub>3</sub>	5.39	y21[2+] (0.23)
1079.557	943.01 <sub>3</sub>	3.71	
1110.320	1710.58 <sub>3</sub>	6.73	
1111.324	3869.37 <sub>3</sub>	15.23	y22o[2+] (0.29) : c9 (-0.18) : y22*[2+] (-0.19) : z22[2+] (-0.19)
1112.315	1007.31 <sub>3</sub>	3.96	
1139.844	734.88 <sub>3</sub>	2.89	b21-98[2+] (0.32) : b20[2+] (-0.14)
1143.152	629.95 <sub>3</sub>	2.48	
1175.712	1343.87 <sub>3</sub>	5.29	y23o[2+] (0.16) : y23*[2+] (-0.32) : z23[2+] (-0.32)
1183.660	1351.38 <sub>3</sub>	5.32	y12 (0.05)
1184.607	699.86 <sub>3</sub>	2.75	y23[2+] (0.05)
1185.408	792.71 <sub>3</sub>	3.12	
1223.447	1965.96 <sub>3</sub>	7.74	a22[2+] (0.40) : b10 (-0.07) : b23-98[2+] (-0.12)
1280.626	437.48 <sub>3</sub>	1.72	c23[2+] (-0.44)
1284.577	1483.41 <sub>3</sub>	5.84	y25[2+] (-0.03) : a24o[2+] (-0.50)
1285.287	1771.18 <sub>3</sub>	6.97	a24o[2+] (0.20) : a24*[2+] (-0.28)
1323.624	461.47 <sub>3</sub>	1.81	b25-98[2+] (0.01)
1339.341	627.79 <sub>3</sub>	2.47	y13 (-0.36)
1341.401	1313.81 <sub>3</sub>	5.17	y26[2+] (0.24)
1357.601	490.39 <sub>3</sub>	1.93	
1372.835	535.14 <sub>3</sub>	2.10	b25[2+] (0.23) : a12* (0.23)
1421.247	741.78 <sub>3</sub>	2.92	b13-98 (0.55) : b27*[2+] (0.13) : y27[2+] (0.07)
1422.120	422.32 <sub>3</sub>	1.66	
1470.014	1115.79 <sub>3</sub>	4.39	y28[2+] (0.31)
1470.617	473.34 <sub>3</sub>	1.86	
1509.695	1770.49 <sub>3</sub>	6.97	y29o[2+] (0.47) : y29*[2+] (-0.01) : z29[2+] (-0.01)
1518.512	14491.22 <sub>3</sub>	57.06	y29[2+] (0.28) : b13 (-0.16)
1521.648	366.25 <sub>3</sub>	1.44	
1522.332	348.31 <sub>3</sub>	1.37	
1553.136	1501.50 <sub>3</sub>	5.91	y30-98[2+] (0.40) : y16o (0.35)
1553.808	455.00 <sub>3</sub>	1.79	y16* (0.04) : z16 (0.04)
1564.830	326.19 <sub>3</sub>	1.28	a30o[2+] (0.14) : a30*[2+] (-0.35)
1570.933	506.99 <sub>3</sub>	1.99	y16 (0.13)
1591.816	258.49 <sub>3</sub>	1.01	
1601.965	628.08 <sub>3</sub>	2.47	a14o (0.25) : y30[2+] (0.24)
1700.258	4395.84 <sub>3</sub>	17.31	y17 (0.42)
1700.905	275.02 <sub>3</sub>	1.08	
1762.620	464.18 <sub>3</sub>	1.82	b15 (-0.12)
1763.802	265.68 <sub>3</sub>	1.04	
1815.463	933.35 <sub>3</sub>	3.67	y18 (0.59)
1833.579	263.98 <sub>3</sub>	1.03	
1901.796	808.63 <sub>3</sub>	3.18	
1991.626	397.27 <sub>3</sub>	1.56	

2055.933	334.35 <sub>,</sub>	1.31	
2070.792	814.66 <sub>,</sub>	3.20	
2082.697	444.03 <sub>,</sub>	1.74	
2142.478	1370.74 <sub>,</sub>	5.39	y21 (0.47)
2158.107	943.01 <sub>,</sub>	3.71	
2177.422	450.12 <sub>,</sub>	1.77	
2186.891	297.40 <sub>,</sub>	1.17	
2221.642	3869.37 <sub>,</sub>	15.23	y22o (0.59) : y22* (-0.39) : z22 (-0.39)
2272.913	641.69 <sub>,</sub>	2.52	
2278.681	734.88 <sub>,</sub>	2.89	b20 (-0.29)
2280.723	586.60 <sub>,</sub>	2.31	
2350.416	1343.87 <sub>,</sub>	5.29	y23o (0.32)
2366.312	1351.38 <sub>,</sub>	5.32	
2368.206	699.86 <sub>,</sub>	2.75	y23 (0.10)
2445.887	1965.96 <sub>,</sub>	7.74	b23-98 (-0.24)
2481.066	629.33 <sub>,</sub>	2.47	y24 (-0.11)
2482.534	610.80 <sub>,</sub>	2.40	
2568.147	1483.41 <sub>,</sub>	5.84	y25 (-0.07)
2647.916	326.74 <sub>,</sub>	1.28	
2663.816	309.95 <sub>,</sub>	1.22	y26o (0.52) : y26* (-0.45) : z26 (-0.45)
2681.795	1313.81 <sub>,</sub>	5.17	y26 (0.49)
2714.194	490.39 <sub>,</sub>	1.93	
2744.663	535.14 <sub>,</sub>	2.10	b25 (0.46)
2939.021	1115.79 <sub>,</sub>	4.39	
2940.226	473.34 <sub>,</sub>	1.86	
3000.306	276.24 <sub>,</sub>	1.08	
3018.383	1770.49 <sub>,</sub>	6.97	y29* (-0.02) : z29 (-0.02)
3042.289	366.25 <sub>,</sub>	1.44	
3087.449	259.26 <sub>,</sub>	1.02	

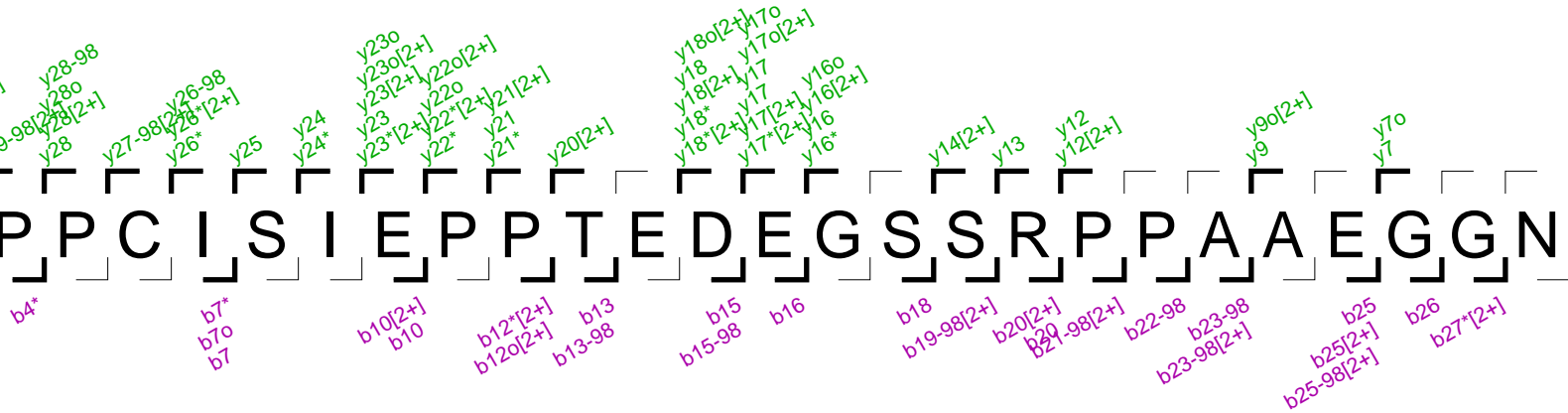
S2200

# ProPhosSI MS/MS report

Mass: 1154.528853 Charge: 3+



KMS  
b30



YLA  
TTLR  
b29o

## Cav3.2 Rat

(38) 2193 KMSPPCISIEPTEDEGSSRPPAAEGGNTTLR 2224 3460.564 (-0.0010) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
8	(2200)	Phospho (ST)	y24 => y26-98, Y28-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	12 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y24 to y26-98 support unique phosphorylation at position 8  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y26-98 to y29-98.
Five of six sequential ions present	1/1	Five of Six ions found between y12 and y17 Five of Six ions found between y13 and y18 Five of Six ions found between y16 and y21 Five of Six ions found between y23 and y28 Five of Six ions found between y24 and y29 Five of Six ions found between y25 and y30 Five of Six ions found between y26 and y31
Proline directed fragmentation pattern	4/7	NOTE: S-P is a low abundance fragmentation. PASS: y29-98> y28-98 with ratio 14.7  No proline ions at b4  NOTE: P-P is a low abundance fragmentation. FAIL: y28-98< y27-98 No proline ions at b5  FAIL: y22< y21 No proline ions at b11-98  NOTE: P-P is a low abundance fragmentation. PASS: y21> y20 with ratio 1.14  No proline ions at b12-98  PASS: y12> y11  FAIL: b21-98> b20-98 NOTE: P-P is a low abundance fragmentation. No proline ions at y11 PASS: b22-98< b21-98 with ratio 10.0 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	9/6	ion 1 (mass: 1012.706: intensity: 25392.58) assigned 1 times ion 2 (mass: 1518.512: intensity: 14491.22) assigned 1 times ion 3 (mass: 850.632: intensity: 4395.84) assigned 1 times ion 4 (mass: 1700.258: intensity: 4395.84) assigned 1 times ion 5 (mass: 2221.642: intensity: 3869.37) assigned 3 times ion 6 (mass: 1111.324: intensity: 3869.37) assigned 4 times ion 7 (mass: 1007.009: intensity: 3111.19) assigned 0 times ion 8 (mass: 2445.887: intensity: 1965.96) assigned 1 times ion 9 (mass: 1223.447: intensity: 1965.96) assigned 3 times ion 10 (mass: 1285.287: intensity: 1771.18) assigned 2 times

## Ion Table

75 ions assigned of 157 ions above threshold (47%).

N-terminal ions

AA	N-ion	b	b*	b-98	bo
K	1	129.102	112.076	-	111.092
M	2	260.143	243.116	-	242.132
S	3	347.175	330.148	-	329.164 *329.086 (0)
P	4	444.228	427.201 427.027 (0)	-	426.217
P	5	541.280	524.254	-	523.270
C	6	701.311	684.284	-	683.300
I	7	814.395 814.547 (1)	797.369 797.419 (3)	-	796.385 796.412 (1)
s	8	981.393	964.367	883.408	963.383
I	9	1094.477	1077.451	996.492	1076.467
E	10	1223.520 612.829 [2+] (0) *1223.447 (7)	1206.494	1125.534	1205.510
P	11	1320.573	1303.546	1222.587	1302.562
P	12	1417.626	1400.599 *700.365 [2+] (0)	1319.640	1399.615 *700.365 [2+] (0)
T	13	1518.673 1518.512 (57)	1501.647	1420.687 *1421.247 (2)	1500.663
E	14	1647.716	1630.689	1549.730	1629.705
D	15	1762.743 1762.620 (1)	1745.716	1664.757 *1664.652 (0)	1744.732
E	16	1891.785 1892.015 (0)	1874.759	1793.800	1873.775
G	17	1948.807	1931.780	1850.821	1930.796
S	18	2035.839 2036.335 (0)	2018.812	1937.853	2017.828
S	19	2122.871	2105.844	2024.885 1012.706 [2+] (100)	2104.860
R	20	2278.972 *1139.844 [2+] (2) 2278.681 (2)	2261.946	2180.986	2260.962
P	21	2376.025	2358.998	2278.039 *1139.844 [2+] (2)	2358.014
P	22	2473.078	2456.051	2375.092 2375.113 (0)	2455.067
A	23	2544.115	2527.088	2446.129 2445.887 (7) *1223.447 [2+] (7)	2526.104
A	24	2615.152	2598.125	2517.166	2597.141
E	25	2744.194 *2744.663 (2) *1372.835 [2+] (2)	2727.168	2646.209 1323.624 [2+] (1)	2726.184
G	26	2801.216 2801.391 (0)	2784.189	2703.230	2783.205
G	27	2858.237	2841.211 *1421.247 [2+] (2)	2760.252	2840.227
N	28	2972.280	2955.254	2874.294	2954.270
T	29	3073.328	3056.301	2975.342	3055.317 3055.418 (0)
T	30	3174.376	3157.349	3076.390	3156.365
L	31	3287.460	3270.433	3189.474	3269.449



R	32	-	-	-	-
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### C-terminal ions

AA	C-ion	y	y*	y-98	yo
K	32	-	-	-	-
M	31	3333.476	3316.450	3235.491	3315.466
S	30	3202.436 *1601.965 [2+] (2)	3185.409	3104.450 *1553.136 [2+] (5)	3184.425
P	29	3115.404	3098.377	3017.418 *1509.695 [2+] (6)	3097.393
P	28	3018.351 3018.383 (6) *1509.695 [2+] (6)	3001.325	2920.365 2920.429 (0)	3000.341 3000.306 (1)
C	27	2921.298	2904.272	2823.313 1412.260 [2+] (0)	2903.288
I	26	2761.268	2744.241 *2744.663 (2) *1372.835 [2+] (2)	2663.282 2663.816 (1)	2743.257
s	25	2648.184 2647.916 (1)	2631.157	2550.198	2630.173
I	24	2481.185 2481.066 (2)	2464.159 *2463.911 (0)	-	2463.175
E	23	2368.101 2368.206 (2) 1184.607 [2+] (2)	2351.075 *1175.712 [2+] (5)	-	2350.091 *1175.712 [2+] (5) 2350.416 (5)
P	22	2239.059	2222.032 *2221.642 (15) *1111.324 [2+] (15)	-	2221.048 *2221.642 (15) *1111.324 [2+] (15)
P	21	2142.006 2142.478 (5) 1071.743 [2+] (5)	2124.979 *2125.219 (0)	-	2123.995
T	20	2044.953 1023.236 [2+] (4)	2027.927	-	2026.943
E	19	1943.905	1926.879	-	1925.895
D	18	1814.863 908.235 [2+] (3) 1815.463 (3)	1797.836 *899.454 [2+] (0) *1797.901 (0)	-	1796.852 *899.454 [2+] (0)
E	17	1699.836 850.632 [2+] (17) 1700.258 (17) 1699.776 (0)	1682.809 *841.662 [2+] (5)	-	1681.825 *841.662 [2+] (5) 1681.975 (0)
G	16	1570.793 1570.933 (1) *785.945 [2+] (3)	1553.767 *1553.808 (1)	-	1552.783 *1553.136 (5)
S	15	1513.772	1496.745	-	1495.761
S	14	1426.740 714.037 [2+] (0)	1409.713	-	1408.729
R	13	1339.708 1339.341 (2)	1322.681	-	1321.697
P	12	1183.607 592.428 [2+] (0) 1183.660 (5)	1166.580	-	1165.596
P	11	1086.554	1069.527	-	1068.543
A	10	989.501	972.475	-	971.491
A	9	918.464 918.177 (0)	901.437	-	900.453 450.183 [2+] (0)
E	8	847.427	830.400	-	829.416
G	7	718.384 *718.269 (3)	701.358	-	700.374 *700.365 (0)
G	6	661.363	644.336	-	643.352

N	5	604.341	587.315	-	586.331
T	4	490.298 490.222 (0)	473.272	-	472.288
T	3	389.251	372.224	-	371.240
L	2	288.203	271.177	-	270.193
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	158	75	47
0.5	113	62	54
1	91	49	53
2	57	36	63
3	41	26	63
4	28	20	71
5	25	19	76
10	7	6	85

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
649.366	616.11 <sub>s</sub>	2.42	
718.269	976.16 <sub>s</sub>	3.84	c12[2+] (0.43) : c6 (-0.06) : y7 (-0.11)
719.430	447.03 <sub>s</sub>	1.76	
736.467	332.42 <sub>s</sub>	1.30	a13o[2+] (-0.37)
785.945	1013.76 <sub>s</sub>	3.99	y16[2+] (0.04) : a7 (-0.45)
786.700	471.75 <sub>s</sub>	1.85	a7 (0.29)
796.412	258.49 <sub>s</sub>	1.01	b7o (0.02)
797.419	808.35 <sub>s</sub>	3.18	b7* (0.04)
814.547	304.35 <sub>s</sub>	1.19	b7 (0.15)
823.395	281.81 <sub>s</sub>	1.10	
841.662	1292.58 <sub>s</sub>	5.09	y17o[2+] (0.24) : y17*[2+] (-0.24) : z17[2+] (-0.24)
850.632	4395.84 <sub>s</sub>	17.31	y17[2+] (0.20)
908.235	933.35 <sub>s</sub>	3.67	y18[2+] (0.29)
917.293	263.98 <sub>s</sub>	1.03	
951.402	808.63 <sub>s</sub>	3.18	a17o[2+] (-0.50)
997.350	534.63 <sub>s</sub>	2.10	
1007.009	3111.19 <sub>s</sub>	12.25	
1012.706	25392.58 <sub>s</sub>	100	b19-98[2+] (-0.24)
1023.236	1198.59 <sub>s</sub>	4.72	y20[2+] (0.25)
1035.899	814.66 <sub>s</sub>	3.20	
1071.743	1370.74 <sub>s</sub>	5.39	y21[2+] (0.23)
1079.557	943.01 <sub>s</sub>	3.71	
1110.320	1710.58 <sub>s</sub>	6.73	

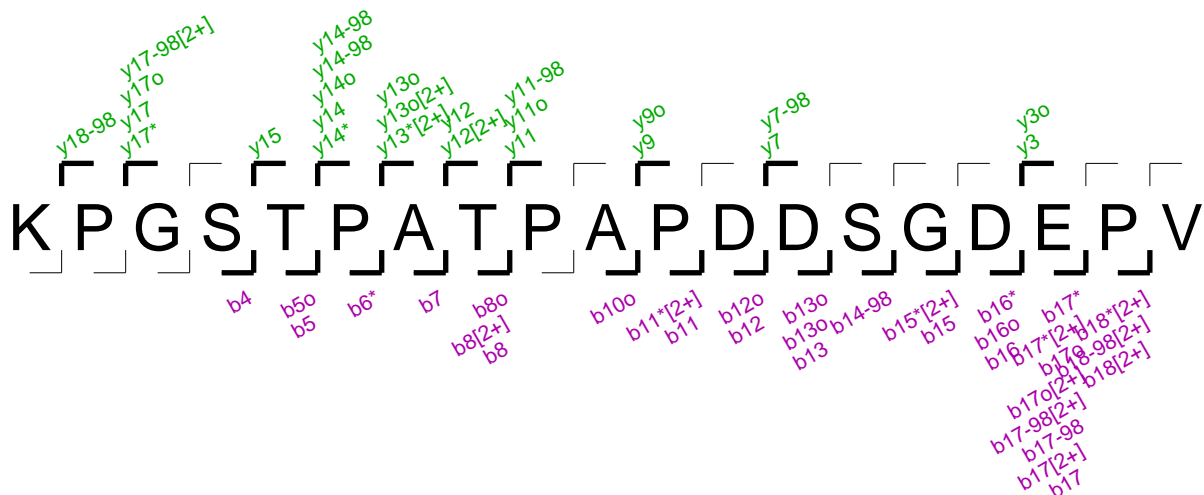
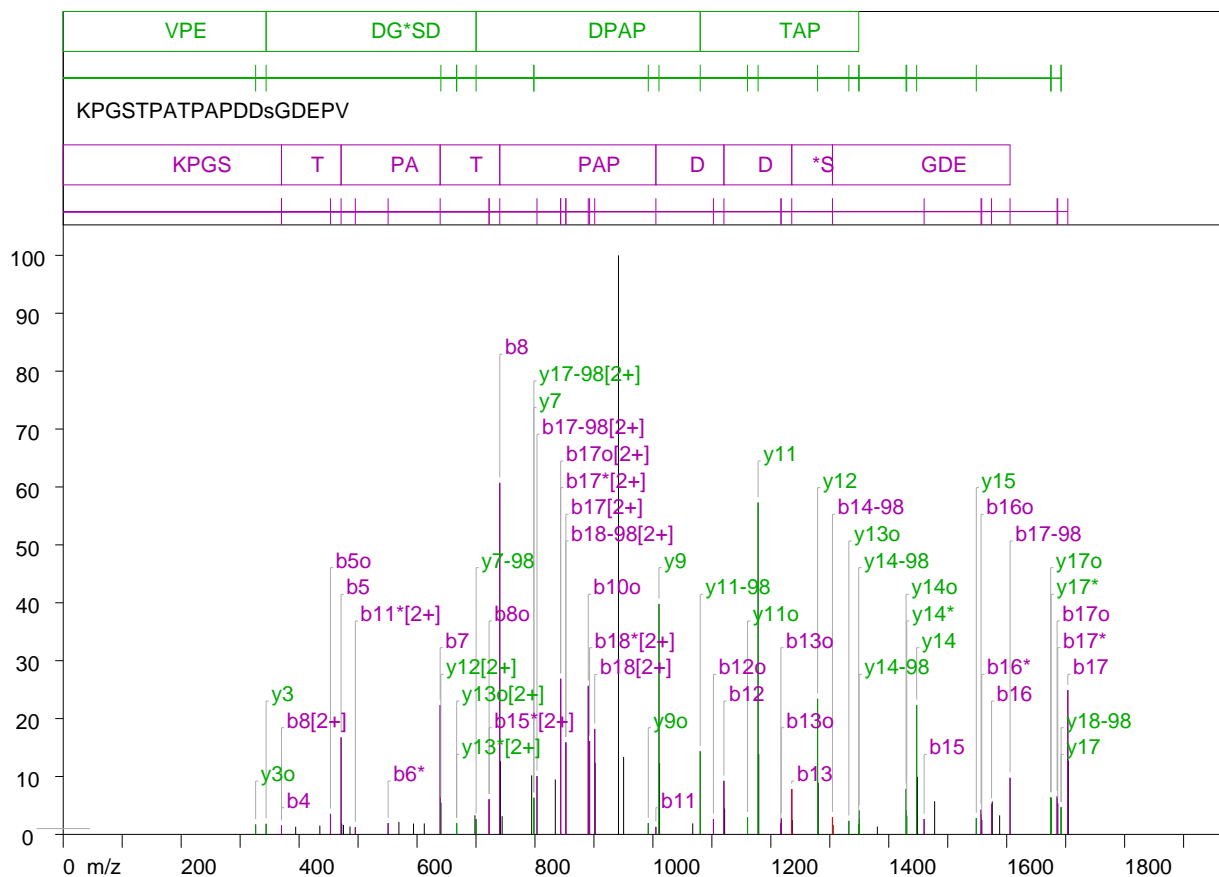
1111.324	3869.37 <sub>5</sub>	15.23	y22o[2+] (0.29) : c9 (-0.18) : y22*[2+] (-0.19) : z22[2+] (-0.19)
1112.315	1007.31 <sub>5</sub>	3.96	
1139.844	734.88 <sub>5</sub>	2.89	b21-98[2+] (0.32) : b20[2+] (-0.14)
1143.152	629.95 <sub>5</sub>	2.48	
1175.712	1343.87 <sub>5</sub>	5.29	y23o[2+] (0.16) : y23*[2+] (-0.32) : z23[2+] (-0.32)
1183.660	1351.38 <sub>5</sub>	5.32	y12 (0.05)
1184.607	699.86 <sub>5</sub>	2.75	y23[2+] (0.05)
1185.408	792.71 <sub>5</sub>	3.12	
1223.447	1965.96 <sub>5</sub>	7.74	a22[2+] (0.40) : b10 (-0.07) : b23-98[2+] (-0.12)
1280.626	437.48 <sub>5</sub>	1.72	c23[2+] (-0.44)
1284.577	1483.41 <sub>5</sub>	5.84	a24o[2+] (-0.50)
1285.287	1771.18 <sub>5</sub>	6.97	a24o[2+] (0.20) : a24*[2+] (-0.28)
1323.624	461.47 <sub>5</sub>	1.81	b25-98[2+] (0.01)
1339.341	627.79 <sub>5</sub>	2.47	y13 (-0.36)
1341.401	1313.81 <sub>5</sub>	5.17	
1357.601	490.39 <sub>5</sub>	1.93	
1372.835	535.14 <sub>5</sub>	2.10	b25[2+] (0.23) : a12* (0.23) : y26*[2+] (0.21) : z26[2+] (0.21)
1421.247	741.78 <sub>5</sub>	2.92	b13-98 (0.55) : b27*[2+] (0.13)
1422.120	422.32 <sub>5</sub>	1.66	
1470.014	1115.79 <sub>5</sub>	4.39	
1470.617	473.34 <sub>5</sub>	1.86	
1509.695	1770.49 <sub>5</sub>	6.97	y29-98[2+] (0.48) : y28[2+] (0.01)
1518.512	14491.22 <sub>5</sub>	57.06	b13 (-0.16)
1521.648	366.25 <sub>5</sub>	1.44	
1522.332	348.31 <sub>5</sub>	1.37	
1553.136	1501.50 <sub>5</sub>	5.91	y30-98[2+] (0.40) : y16o (0.35)
1553.808	455.00 <sub>5</sub>	1.79	y16* (0.04) : z16 (0.04)
1564.830	326.19 <sub>5</sub>	1.28	a30o[2+] (0.14) : a30*[2+] (-0.35)
1570.933	506.99 <sub>5</sub>	1.99	y16 (0.13)
1591.816	258.49 <sub>5</sub>	1.01	
1601.965	628.08 <sub>5</sub>	2.47	a14o (0.25) : y30[2+] (0.24)
1700.258	4395.84 <sub>5</sub>	17.31	y17 (0.42)
1700.905	275.02 <sub>5</sub>	1.08	
1762.620	464.18 <sub>5</sub>	1.82	b15 (-0.12)
1763.802	265.68 <sub>5</sub>	1.04	
1815.463	933.35 <sub>5</sub>	3.67	y18 (0.59)
1833.579	263.98 <sub>5</sub>	1.03	
1901.796	808.63 <sub>5</sub>	3.18	
1991.626	397.27 <sub>5</sub>	1.56	
2055.933	334.35 <sub>5</sub>	1.31	
2070.792	814.66 <sub>5</sub>	3.20	
2082.697	444.03 <sub>5</sub>	1.74	
2142.478	1370.74 <sub>5</sub>	5.39	y21 (0.47)

2158.107	943.01 <sub>3</sub>	3.71	
2177.422	450.12 <sub>3</sub>	1.77	
2186.891	297.40 <sub>3</sub>	1.17	
2221.642	3869.37 <sub>3</sub>	15.23	y22o (0.59) : y22* (-0.39) : z22 (-0.39)
2272.913	641.69 <sub>3</sub>	2.52	
2278.681	734.88 <sub>3</sub>	2.89	b20 (-0.29)
2280.723	586.60 <sub>3</sub>	2.31	
2350.416	1343.87 <sub>3</sub>	5.29	y23o (0.32)
2366.312	1351.38 <sub>3</sub>	5.32	
2368.206	699.86 <sub>3</sub>	2.75	y23 (0.10)
2445.887	1965.96 <sub>3</sub>	7.74	b23-98 (-0.24)
2481.066	629.33 <sub>3</sub>	2.47	y24 (-0.11)
2482.534	610.80 <sub>3</sub>	2.40	
2568.147	1483.41 <sub>3</sub>	5.84	
2647.916	326.74 <sub>3</sub>	1.28	y25 (-0.26)
2663.816	309.95 <sub>3</sub>	1.22	y26-98 (0.53)
2681.795	1313.81 <sub>3</sub>	5.17	
2714.194	490.39 <sub>3</sub>	1.93	
2744.663	535.14 <sub>3</sub>	2.10	b25 (0.46) : y26* (0.42) : z26 (0.42)
2939.021	1115.79 <sub>3</sub>	4.39	
2940.226	473.34 <sub>3</sub>	1.86	
3000.306	276.24 <sub>3</sub>	1.08	y28o (-0.03)
3018.383	1770.49 <sub>3</sub>	6.97	y28 (0.03)
3042.289	366.25 <sub>3</sub>	1.44	
3087.449	259.26 <sub>3</sub>	1.02	

S2354

# ProPhosSI MS/MS report

Mass: 959.409976 Charge: 2+



## Cav3.2 Rat

(55) 2341 KPGSTPATPAPDDsGDEPV 2359 1916.804 (0.0001) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
14	(2354)	Phospho (ST)	b13 => b14-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b13 to b14-98, transition y3 to y7-98 support unique phosphorylation at position 14  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b11 to b14-98.
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	4/7	FAIL: y18-98< y17-98 No proline ions at b2  PASS: y14-98> y13-98  PASS: b6< b5  PASS: y11-98> y10-98  PASS: b9< b8  No proline ions at y9-98 FAIL: b11> b10 No proline ions at y2 FAIL: b18-98> b17-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	10/6	ion 1 (mass: 941.596: intensity: 8488.11) assigned 1 times ion 2 (mass: 740.307: intensity: 5153.71) assigned 1 times ion 3 (mass: 1178.399: intensity: 4864.95) assigned 1 times ion 4 (mass: 1010.306: intensity: 3378.38) assigned 1 times ion 5 (mass: 843.574: intensity: 2281.21) assigned 2 times ion 6 (mass: 890.364: intensity: 2177.98) assigned 1 times ion 7 (mass: 1703.672: intensity: 2114.64) assigned 1 times ion 8 (mass: 1279.321: intensity: 1987.98) assigned 1 times ion 9 (mass: 1447.320: intensity: 1897.55) assigned 1 times ion 10 (mass: 639.247: intensity: 1897.42) assigned 1 times

### Ion Table

54 ions assigned of 80 ions above threshold (67%).

#### N-terminal ions

AA	N-ion	b	b*	b-98	bo
K	1	129.102	112.076	-	111.092
P	2	226.155	209.129	-	208.145

G	3	283.177	266.150	-	265.166
S	4	370.209 *370.135 (1)	353.182	-	352.198
T	5	471.256 *471.218 (16)	454.230	-	453.246 453.163 (3)
P	6	568.309	551.282 550.984 (1)	-	550.298
A	7	639.346 639.247 (22)	622.320	-	621.336
T	8	740.394 *370.135 [2+] (1) 740.307 (60)	723.367	-	722.383 *722.219 (6)
P	9	837.447	820.420	-	819.436
A	10	908.484	891.457	-	890.473 890.364 (25)
P	11	1005.536 1005.058 (1)	988.510 495.338 [2+] (1)	-	987.526
D	12	1120.563 1120.455 (9)	1103.537	-	1102.553 1102.671 (2)
D	13	1235.590 1235.503 (7)	1218.564	-	1217.580 1217.030 (1) 1217.635 (2)
s	14	1402.589	1385.562	1304.603 1304.490 (2)	1384.578
G	15	1459.610 1459.954 (2)	1442.584 *722.219 [2+] (6)	1361.624	1441.600
D	16	1574.637 1574.307 (5)	1557.611 1557.677 (2)	1476.651	1556.627 1556.475 (4)
E	17	1703.680 *852.374 [2+] (15) 1703.672 (24)	1686.653 1686.540 (5) *843.574 [2+] (26)	1605.694 803.411 [2+] (10) 1605.698 (9)	1685.669 1685.463 (6) *843.574 [2+] (26)
P	18	1800.732 901.358 [2+] (18)	1783.706 892.649 [2+] (16)	1702.747 *852.374 [2+] (15)	1782.722
V	19	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
K	19	-	-	-	-
P	18	1789.717	1772.690	1691.731 *1692.226 (4)	1771.706
G	17	1692.664 *1692.226 (4)	1675.637 *1675.488 (6)	1594.678 *798.109 [2+] (6)	1674.653 1674.552 (6)
S	16	1635.642	1618.616	1537.656	1617.632
T	15	1548.610 1548.435 (2)	1531.584	1450.624	1530.600
P	14	1447.563 1447.320 (22)	1430.536 *1430.421 (3)	1349.577 1348.997 (1) 1349.804 (4)	1429.552 1429.369 (7)
A	13	1350.510	1333.483 *667.196 [2+] (1)	1252.524	1332.499 *667.196 [2+] (1) 1332.316 (2)
T	12	1279.473 640.397 [2+] (5) 1279.321 (23)	1262.446	1181.487	1261.462
P	11	1178.425 1178.399 (57)	1161.398	1080.439 1080.222 (14)	1160.414 1160.517 (2)
A	10	1081.372	1064.346	983.386	1063.362
P	9	1010.335 1010.306 (39)	993.309	912.349	992.325 992.187 (1)



D	8	913.282	896.256	815.296	895.272
D	7	798.255 *798.109 (6)	781.229	700.269 700.162 (2)	780.245
s	6	683.228	666.202	585.243	665.218
G	5	516.230	499.204	-	498.220
D	4	459.209	442.182	-	441.198
E	3	344.182 344.081 (1)	327.155	-	326.171 326.290 (1)
P	2	215.139	198.113	-	197.129
V	1	118.086	101.060	-	100.076

### Ion distribution

Threshold	Ion count	Matches	% matched
0	90	57	63
0.5	87	57	65
1	80	54	67
2	60	43	71
3	49	33	67
4	44	31	70
5	40	28	70
10	23	16	69

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
326.290	145.09 <sub>s</sub>	1.70	y3o (0.11)
344.081	155.62 <sub>s</sub>	1.83	y3 (-0.10)
370.135	129.69 <sub>s</sub>	1.52	b4 (-0.07) : b8[2+] (-0.56)
394.199	111.75 <sub>s</sub>	1.31	
435.188	129.98 <sub>s</sub>	1.53	
453.163	301.29 <sub>s</sub>	3.54	b5o (-0.08)
471.218	1422.36 <sub>s</sub>	16.75	x8[2+] (0.07) : b5 (-0.03)
472.309	160.39 <sub>s</sub>	1.88	
475.205	138.76 <sub>s</sub>	1.63	
486.276	116.17 <sub>s</sub>	1.36	
495.338	106.21 <sub>s</sub>	1.25	b11*[2+] (0.57)
550.984	165.14 <sub>s</sub>	1.94	b6* (-0.29)
569.258	183.31 <sub>s</sub>	2.15	c12[2+] (-0.04)
594.056	158.71 <sub>s</sub>	1.86	a7* (-0.26)
612.315	160.37 <sub>s</sub>	1.88	
639.247	1897.42 <sub>s</sub>	22.35	b7 (-0.09)
640.397	464.28 <sub>s</sub>	5.46	y12[2+] (0.15)
667.196	164.24 <sub>s</sub>	1.93	y13o[2+] (0.44) : y13*[2+] (-0.04) : z13[2+] (-0.04)
698.215	280.78 <sub>s</sub>	3.30	

700.162	225.24,	2.65	y7-98 (-0.10)
722.219	515.09,	6.06	b15*[2+] (0.42) : b8o (-0.16)
740.307	5153.71,	60.71	b8 (-0.08)
741.455	1073.87,	12.65	
744.324	267.22,	3.14	
794.431	865.56,	10.19	
798.109	536.64,	6.32	y17-98[2+] (0.26) : y7 (-0.14)
803.411	854.50,	10.06	b17-98[2+] (0.05)
834.497	805.65,	9.49	
843.574	2281.21,	26.87	b17o[2+] (0.23) : b17*[2+] (-0.25)
852.374	1348.73,	15.88	b18-98[2+] (0.49) : b17[2+] (0.02)
890.364	2177.98,	25.65	b10o (-0.10)
892.649	1369.45,	16.13	b18*[2+] (0.29)
901.358	1546.07,	18.21	b18[2+] (0.48)
902.008	1044.67,	12.30	
941.596	8488.11,	100	x8 (0.31)
950.326	1134.76,	13.36	
992.187	165.67,	1.95	y9o (-0.13)
1005.058	110.12,	1.29	b11 (-0.47)
1010.306	3378.38,	39.80	y9 (-0.02)
1011.328	1042.48,	12.28	
1067.559	161.25,	1.89	
1080.222	1220.52,	14.37	y11-98 (-0.21)
1102.671	225.58,	2.65	b12o (0.11)
1120.455	785.61,	9.25	b12 (-0.10)
1121.622	380.24,	4.47	
1160.517	248.42,	2.92	y11o (0.10)
1178.399	4864.95,	57.31	y11 (-0.02)
1179.502	1175.48,	13.84	
1217.030	162.02,	1.90	b13o (-0.55)
1217.635	234.70,	2.76	b13o (0.05)
1235.503	665.37,	7.83	b13 (-0.08)
1236.440	210.75,	2.48	
1279.321	1987.98,	23.42	y12 (-0.15)
1280.325	756.73,	8.91	
1304.490	252.49,	2.97	b14-98 (-0.11)
1305.589	141.33,	1.66	
1332.316	198.48,	2.33	y13o (-0.18)
1348.997	146.68,	1.72	y14-98 (-0.58)
1349.804	351.18,	4.13	y14-98 (0.22)
1380.631	114.18,	1.34	
1429.369	666.44,	7.85	y14o (-0.18)
1430.421	274.00,	3.22	y14* (-0.11) : z14 (-0.11)

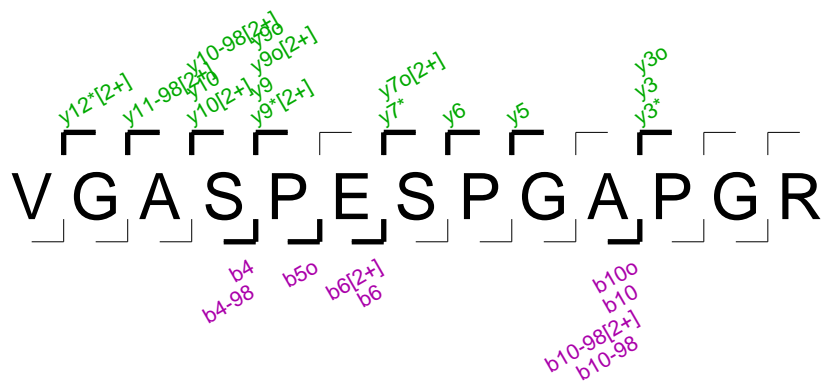
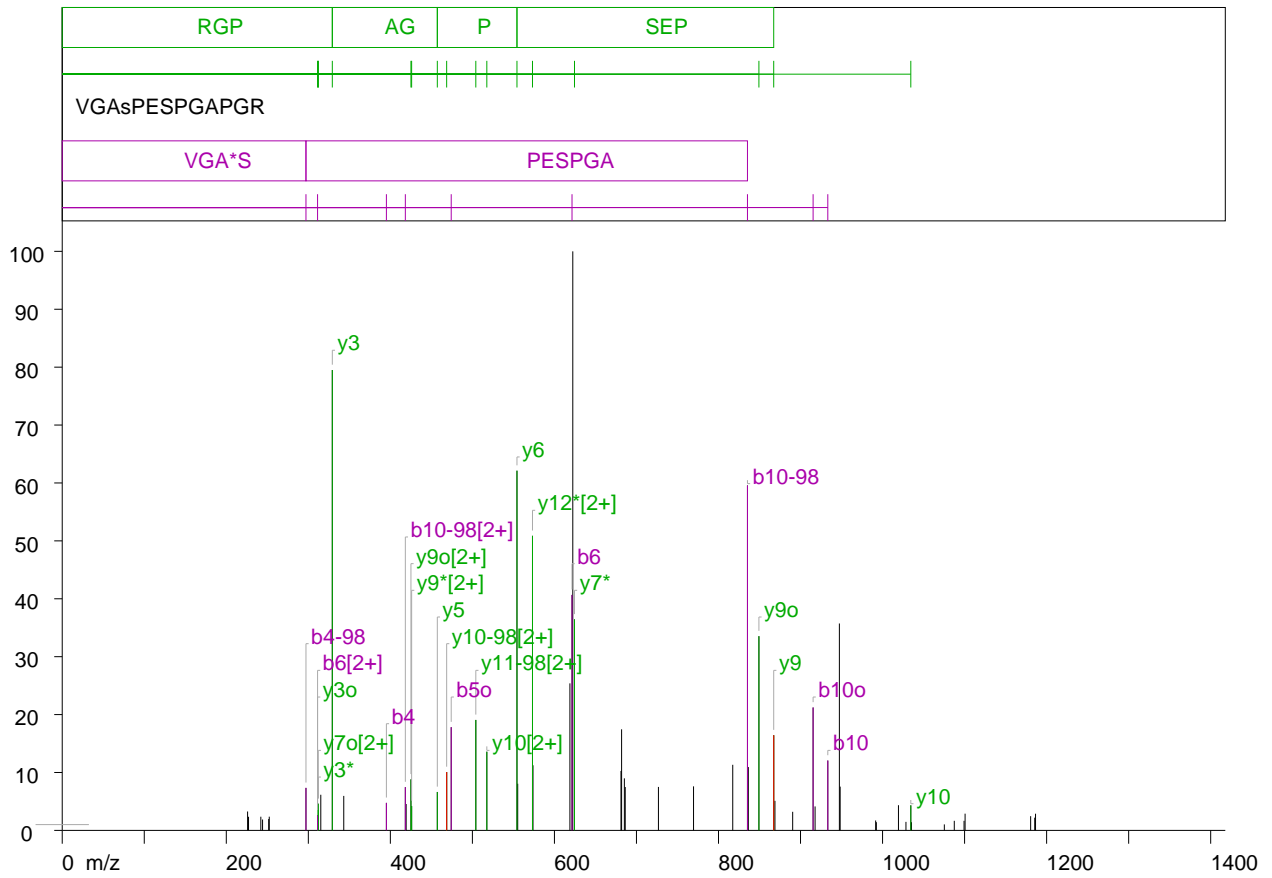
1447.320	1897.55 <sub>,</sub>	22.35	y14 (-0.24)
1448.609	841.83 <sub>,</sub>	9.91	
1459.954	224.42 <sub>,</sub>	2.64	b15 (0.34)
1477.781	485.78 <sub>,</sub>	5.72	
1548.435	238.31 <sub>,</sub>	2.80	y15 (-0.17)
1556.475	361.30 <sub>,</sub>	4.25	b16o (-0.15)
1557.677	213.11 <sub>,</sub>	2.51	b16* (0.06)
1574.307	448.67 <sub>,</sub>	5.28	b16 (-0.33)
1575.559	482.67 <sub>,</sub>	5.68	
1588.009	279.64 <sub>,</sub>	3.29	
1605.698	830.36 <sub>,</sub>	9.78	b17-98 (0.00)
1674.552	543.79 <sub>,</sub>	6.40	y17o (-0.10)
1675.488	538.00 <sub>,</sub>	6.33	y17* (-0.14) : z17 (-0.14) : a17 (-0.19)
1685.463	558.93 <sub>,</sub>	6.58	b17o (-0.20)
1686.540	454.91 <sub>,</sub>	5.35	b17* (-0.11)
1692.226	397.95 <sub>,</sub>	4.68	y18-98 (0.49) : y17 (-0.43)
1703.672	2114.64 <sub>,</sub>	24.91	b17 (-0.00)
1704.542	1079.88 <sub>,</sub>	12.72	

MS/MS spectra of  
phosphorylated  
peptides in human  
cav3.2 (HEK293T cells)

S29

# ProPhosSI MS/MS report

Mass: 631.282133 Charge: 2+



## Cav3.2 human

(22) 26 <sup>+</sup>VGAsPESPGAPGR 38 1260.550 (-0.0014) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
4	(29)	Phospho (ST)	y9 => y10-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	4 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y9 to y10-98[2+] support unique phosphorylation at position 4  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	5/5	NOTE: S-P is a low abundance fragmentation. PASS: y9> y8  PASS: b5-98< b4-98  NOTE: S-P is a low abundance fragmentation. PASS: y6> y5 with ratio 9.36  No proline ions at b8-98  PASS: y3> y2  PASS: b11-98< b10-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 622.397: intensity: 2165.16) assigned 0 times ion 2 (mass: 329.249: intensity: 1721.40) assigned 1 times ion 3 (mass: 554.335: intensity: 1345.02) assigned 1 times ion 4 (mass: 835.306: intensity: 1289.71) assigned 1 times ion 5 (mass: 573.245: intensity: 1101.40) assigned 2 times ion 6 (mass: 621.435: intensity: 880.47) assigned 1 times ion 7 (mass: 624.479: intensity: 788.74) assigned 2 times ion 8 (mass: 947.373: intensity: 773.64) assigned 0 times ion 9 (mass: 849.261: intensity: 726.19) assigned 1 times ion 10 (mass: 618.890: intensity: 549.82) assigned 0 times

## Ion Table

24 ions assigned of 52 ions above threshold (46%).

N-terminal ions

AA	N-ion	b	b*	b-98	bo
V	1	100.076	83.049	-	82.065
G	2	157.097	140.071	-	139.087
A	3	228.134	211.108	-	210.124
s	4	395.133 395.162 (4)	378.106	297.147 *297.123 (7)	377.122
P	5	492.185	475.159	394.200	474.175 474.172 (17)
E	6	621.228 *311.243 [2+] (2) 621.435 (40)	604.201	523.242	603.217
S	7	708.260	691.234	610.274	690.250
P	8	805.313	788.286	707.327	787.302
G	9	862.334	845.308	764.348	844.324
A	10	933.371 933.252 (12)	916.345	835.386 418.253 [2+] (7) 835.306 (59)	915.361 915.344 (21)
P	11	1030.424	1013.398	932.438	1012.414
G	12	1087.446	1070.419	989.460	1069.435
R	13	-	-	-	-

C-terminal ions

AA	C-ion	y	y*	y-98	yo
V	13	-	-	-	-
G	12	1162.489	1145.462 *573.245 [2+] (50)	1064.503	1144.478
A	11	1105.467	1088.441	1007.482 504.172 [2+] (19)	1087.457
s	10	1034.430 517.598 [2+] (13) 1034.446 (4)	1017.404	936.444 468.612 [2+] (10)	1016.420
P	9	867.432 867.328 (16)	850.405 *425.921 [2+] (4)	-	849.421 425.088 [2+] (8) 849.261 (33)
E	8	770.379	753.353	-	752.369
S	7	641.337	624.310 *624.479 (36)	-	623.326 *312.112 [2+] (4)
P	6	554.305 554.335 (62)	537.278	-	536.294
G	5	457.252 457.249 (6)	440.225	-	439.241
A	4	400.230	383.204	-	382.220
P	3	329.193 329.249 (79)	312.167 *312.112 (4)	-	311.183 *311.243 (2)
G	2	232.140	215.114	-	214.130
R	1	175.119	158.092	-	157.108

Ion distribution

Threshold	Ion count	Matches	% matched
0	66	27	40



0.5	65	27	41
1	61	25	40
2	52	24	46
3	44	23	52
4	42	23	54
5	35	19	54
10	22	15	68

### Observed ions > 1%

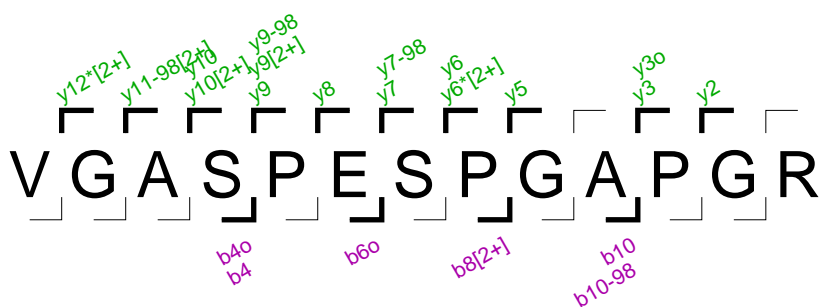
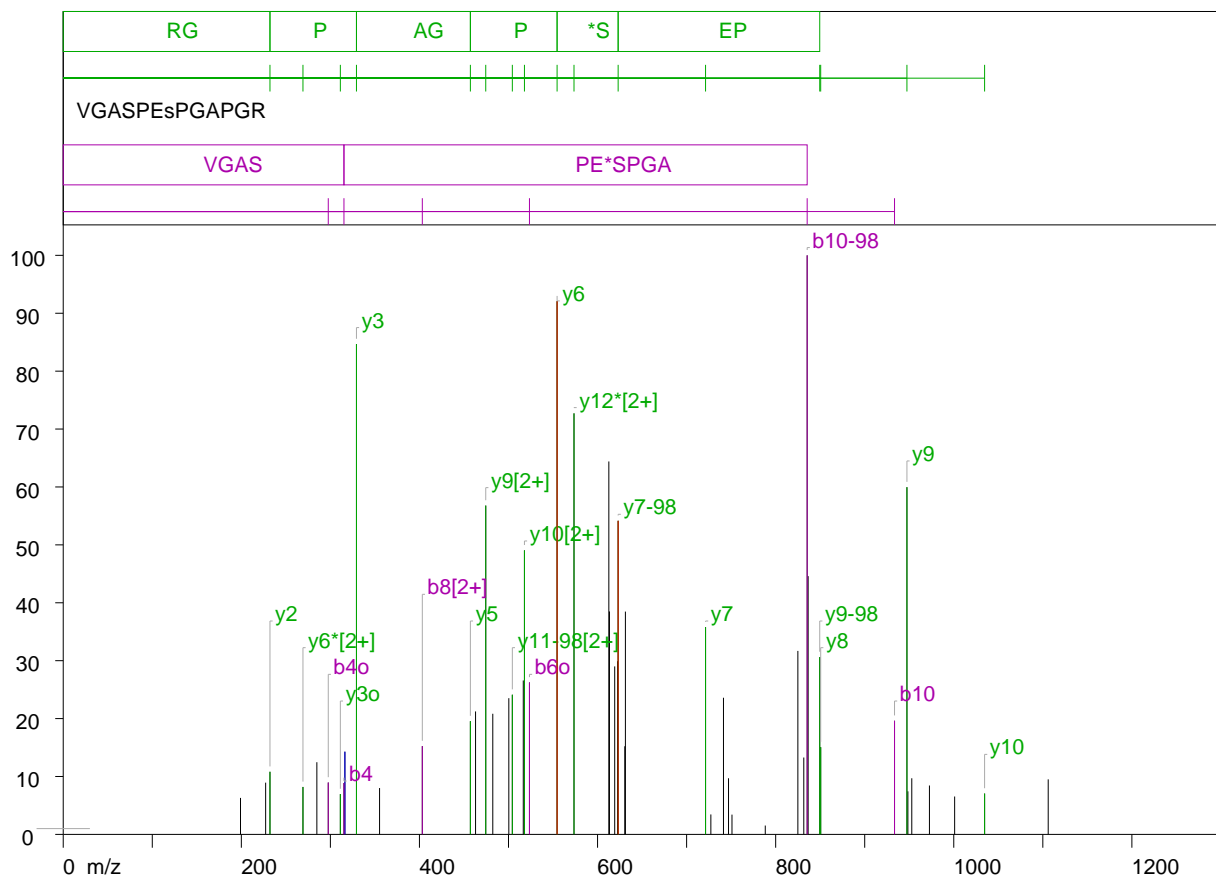
m/z	Intensity	% max	Assignment (delta)
225.961	70.70 <sub>,</sub>	3.26	
227.095	50.91 <sub>,</sub>	2.35	
242.116	51.18 <sub>,</sub>	2.36	
244.221	40.62 <sub>,</sub>	1.87	
251.692	42.48 <sub>,</sub>	1.96	
252.379	51.28 <sub>,</sub>	2.36	
297.123	158.97 <sub>,</sub>	7.34	a6[2+] (0.00) : b4-98 (-0.02)
311.243	56.34 <sub>,</sub>	2.60	b6[2+] (0.12) : y3o (0.05)
312.112	99.50 <sub>,</sub>	4.59	y3* (-0.05) : z3 (-0.05) : y7o[2+] (-0.05)
315.177	133.28 <sub>,</sub>	6.15	
329.249	1721.40 <sub>,</sub>	79.50	y3 (0.05)
343.182	128.98 <sub>,</sub>	5.95	
395.162	102.88 <sub>,</sub>	4.75	b4 (0.02)
418.253	161.73 <sub>,</sub>	7.46	b10-98[2+] (0.05)
419.246	98.65 <sub>,</sub>	4.55	
425.088	190.69 <sub>,</sub>	8.80	y9o[2+] (-0.12)
425.921	90.92 <sub>,</sub>	4.19	z9[2+] (0.21) : y9*[2+] (0.21)
457.249	143.67 <sub>,</sub>	6.63	y5 (-0.00)
468.612	218.22 <sub>,</sub>	10.07	y10-98[2+] (-0.11)
474.172	385.92 <sub>,</sub>	17.82	b5o (-0.00)
504.172	413.03 <sub>,</sub>	19.07	y11-98[2+] (-0.07)
517.598	294.25 <sub>,</sub>	13.59	y10[2+] (-0.12)
554.335	1345.02 <sub>,</sub>	62.12	y6 (0.02)
555.256	174.53 <sub>,</sub>	8.06	
573.245	1101.40 <sub>,</sub>	50.86	y12*[2+] (0.00) : z12[2+] (0.00)
573.883	243.53 <sub>,</sub>	11.24	
618.890	549.82 <sub>,</sub>	25.39	
621.435	880.47 <sub>,</sub>	40.66	b6 (0.20)
622.397	2165.16 <sub>,</sub>	100	
624.479	788.74 <sub>,</sub>	36.42	z7 (0.16) : y7* (0.16)

681.144	222.40,	10.27	
681.875	377.99,	17.45	
685.260	194.63,	8.98	
686.296	162.15,	7.48	
726.791	162.53,	7.50	
769.566	164.65,	7.60	
817.386	245.32,	11.33	a9* (0.07)
835.306	1289.71,	59.56	b10-98 (-0.08)
836.359	236.85,	10.93	
849.261	726.19,	33.53	y9o (-0.16)
867.328	355.90,	16.43	y9 (-0.10)
868.825	110.51,	5.10	
890.419	69.56,	3.21	
915.344	459.57,	21.22	b10o (-0.01)
917.746	89.61,	4.13	
933.252	261.19,	12.06	b10 (-0.11)
947.373	773.64,	35.73	
948.322	163.70,	7.56	
991.590	37.15,	1.71	
992.430	30.71,	1.41	
1019.400	94.20,	4.35	
1028.526	31.94,	1.47	
1034.446	93.71,	4.32	y10 (0.01)
1035.218	30.56,	1.41	
1075.320	22.43,	1.03	
1087.452	35.85,	1.65	b12 (0.00) : y11o (-0.00)
1099.322	35.80,	1.65	
1100.596	62.59,	2.89	
1180.522	53.20,	2.45	
1185.486	47.59,	2.19	
1186.462	62.40,	2.88	

S32

# ProPhosSI MS/MS report

Mass: 631.282572 Charge: 2+



## Cav3.2 human

(46) 26 VGASPEsPGAPGR 38 1260.550 (-0.0005) Da

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
7	(32)	Phospho (ST)	y6 => y7-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	4 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b4 to b10-98, transition y6 to y7-98 support unique phosphorylation at position 7  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	1/1	Five of Six ions found between y2 and y7
Proline directed fragmentation pattern	5/5	NOTE: S-P is a low abundance fragmentation. PASS: y9-98> y8-98  PASS: b5< b4  NOTE: S-P is a low abundance fragmentation. PASS: y6> y5 with ratio 4.70  No proline ions at b8-98  PASS: y3> y2 with ratio 7.82  PASS: b11-98< b10-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 835.376: intensity: 132.04) assigned 1 times ion 2 (mass: 554.567: intensity: 121.57) assigned 1 times ion 3 (mass: 329.282: intensity: 111.80) assigned 1 times ion 4 (mass: 573.565: intensity: 96.01) assigned 2 times ion 5 (mass: 612.661: intensity: 85.04) assigned 0 times ion 6 (mass: 947.406: intensity: 79.18) assigned 1 times ion 7 (mass: 474.453: intensity: 74.98) assigned 1 times ion 8 (mass: 623.134: intensity: 71.51) assigned 1 times ion 9 (mass: 517.896: intensity: 64.77) assigned 1 times ion 10 (mass: 836.473: intensity: 58.89) assigned 0 times

## Ion Table

23 ions assigned of 49 ions above threshold (46%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
V	1	100.076	83.049	-	82.065
G	2	157.097	140.071	-	139.087
A	3	228.134	211.108	-	210.124
S	4	315.166 315.225 (8)	298.140	-	297.156 297.625 (8)
P	5	412.219	395.193	-	394.209
E	6	541.262	524.235	-	523.251 523.535 (26)
s	7	708.260	691.234	610.274	690.250
P	8	805.313 403.224 [2+] (15)	788.286	707.327	787.302
G	9	862.334	845.308	764.348	844.324
A	10	933.371 933.487 (19)	916.345	835.386 835.376 (100)	915.361
P	11	1030.424	1013.398	932.438	1012.414
G	12	1087.446	1070.419	989.460	1069.435
R	13	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
V	13	-	-	-	-
G	12	1162.489	1145.462 *573.565 [2+] (72)	1064.503	1144.478
A	11	1105.467	1088.441	1007.482 504.297 [2+] (24)	1087.457
S	10	1034.430 517.896 [2+] (49) 1034.608 (7)	1017.404	936.444	1016.420
P	9	947.398 947.406 (59) 474.453 [2+] (56)	930.372	849.412 849.483 (30)	929.388
E	8	850.346 850.575 (15)	833.319	752.360	832.335
s	7	721.303 721.262 (35)	704.276	623.317 623.134 (54)	703.292
P	6	554.305 554.567 (92)	537.278 *269.190 [2+] (8)	-	536.294
G	5	457.252 457.188 (19)	440.225	-	439.241
A	4	400.230	383.204	-	382.220
P	3	329.193 329.282 (84)	312.167	-	311.183 311.175 (6)
G	2	232.140 232.161 (10)	215.114	-	214.130
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	50	23	46

0.5	50	23	46
1	50	23	46
2	49	22	44
3	49	22	44
4	47	22	46
5	47	22	46
10	33	17	51

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
199.068	8.32 <sub>3</sub>	6.30	
227.294	11.80 <sub>3</sub>	8.93	
232.161	14.28 <sub>3</sub>	10.81	y2 (0.02)
269.190	10.82 <sub>3</sub>	8.19	y6*[2+] (0.04) : z6[2+] (0.04) : a4o (0.02)
284.804	16.46 <sub>3</sub>	12.46	
297.625	11.83 <sub>3</sub>	8.95	b4o (0.46)
311.175	9.19 <sub>3</sub>	6.96	y3o (-0.00)
315.225	11.72 <sub>3</sub>	8.87	b4 (0.05)
316.293	18.86 <sub>3</sub>	14.28	
329.282	111.80 <sub>3</sub>	84.67	y3 (0.08)
355.218	10.57 <sub>3</sub>	8.00	
403.224	20.13 <sub>3</sub>	15.24	b8[2+] (0.06)
457.188	25.82 <sub>3</sub>	19.55	y5 (-0.06)
463.006	28.04 <sub>3</sub>	21.23	
474.453	74.98 <sub>3</sub>	56.78	y9[2+] (0.24)
482.362	27.51 <sub>3</sub>	20.83	
500.371	31.06 <sub>3</sub>	23.52	
504.297	31.85 <sub>3</sub>	24.12	y11-98[2+] (0.05)
516.586	35.10 <sub>3</sub>	26.58	
517.896	64.77 <sub>3</sub>	49.05	y10[2+] (0.17)
523.535	34.64 <sub>3</sub>	26.23	b6o (0.28)
554.567	121.57 <sub>3</sub>	92.07	y6 (0.26)
573.565	96.01 <sub>3</sub>	72.71	y12*[2+] (0.32) : z12[2+] (0.32)
612.661	85.04 <sub>3</sub>	64.40	
613.374	50.84 <sub>3</sub>	38.50	
619.271	38.31 <sub>3</sub>	29.01	
622.415	39.49 <sub>3</sub>	29.90	
623.134	71.51 <sub>3</sub>	54.15	y7-98 (-0.18)
630.569	20.10 <sub>3</sub>	15.22	
631.280	50.81 <sub>3</sub>	38.48	
721.262	47.26 <sub>3</sub>	35.79	y7 (-0.04)

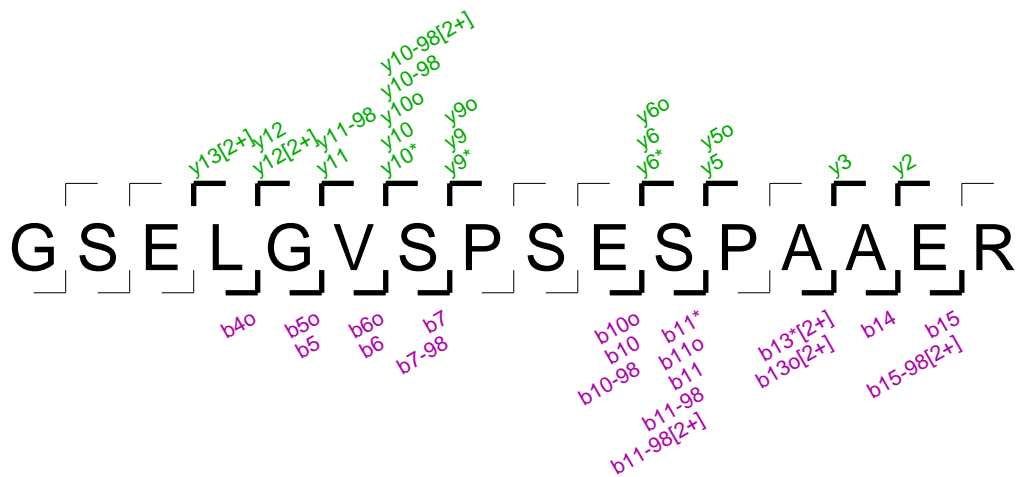
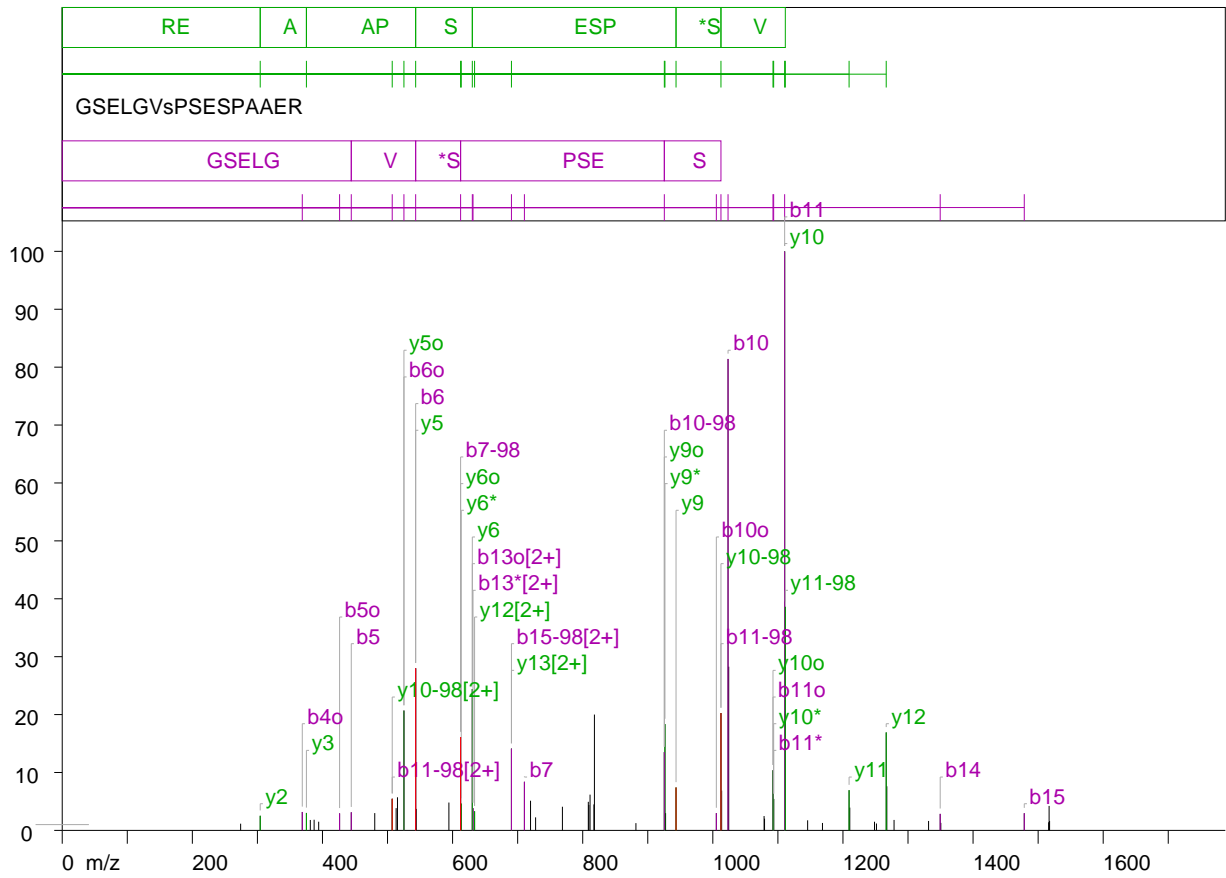
727.230	4.55 <sub>,</sub>	3.44	
741.391	31.16 <sub>,</sub>	23.59	
747.074	12.80 <sub>,</sub>	9.69	
750.950	4.51 <sub>,</sub>	3.41	
788.345	2.02 <sub>,</sub>	1.52	b8* (0.05)
824.933	41.84 <sub>,</sub>	31.68	
831.593	17.53 <sub>,</sub>	13.27	
835.376	132.04 <sub>,</sub>	100	b10-98 (-0.01)
836.473	58.89 <sub>,</sub>	44.60	
849.483	40.43 <sub>,</sub>	30.61	y9-98 (0.07)
850.575	19.89 <sub>,</sub>	15.06	y8 (0.22)
933.487	25.91 <sub>,</sub>	19.62	b10 (0.11)
947.406	79.18 <sub>,</sub>	59.96	y9 (0.00)
948.482	9.82 <sub>,</sub>	7.43	
952.851	12.80 <sub>,</sub>	9.69	
972.665	11.15 <sub>,</sub>	8.44	
1000.975	8.64 <sub>,</sub>	6.54	
1034.608	9.31 <sub>,</sub>	7.05	y10 (0.17)
1106.039	12.55	9.50	



S49

# ProPhosSI MS/MS report

Mass: 826.862086 Charge: 2+



# GSELVSPSESPAER

(62) 43 GSELVSPSESPAER 58 1651.709 (-0.0005) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
7	(49)	Phospho (ST)	y9 => y10-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	6 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y9 to y10-98 support unique phosphorylation at position 7  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	4/4	NOTE: S-P is a low abundance fragmentation. PASS: y9> y8  PASS: b8-98< b7-98  NOTE: S-P is a low abundance fragmentation. PASS: y5> y4  PASS: b12-98< b11-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 1110.391: intensity: 9917.15) assigned 2 times ion 2 (mass: 1023.397: intensity: 8074.30) assigned 1 times ion 3 (mass: 1111.410: intensity: 3828.31) assigned 1 times ion 4 (mass: 1024.427: intensity: 2803.53) assigned 0 times ion 5 (mass: 543.253: intensity: 2777.18) assigned 2 times ion 6 (mass: 630.304: intensity: 2420.94) assigned 2 times ion 7 (mass: 525.196: intensity: 2051.77) assigned 2 times ion 8 (mass: 1012.479: intensity: 2009.85) assigned 2 times ion 9 (mass: 817.985: intensity: 1983.84) assigned 0 times ion 10 (mass: 926.387: intensity: 1820.69) assigned 2 times

## Ion Table

32 ions assigned of 50 ions above threshold (64%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
G	1	58.029	41.002	-	40.018
S	2	145.061	128.034	-	127.050
E	3	274.103	257.077	-	256.093
L	4	387.187	370.161	-	369.177 368.963 (3)

G	5	444.209 444.258 (3)	427.182	-	426.198 426.307 (2)
V	6	543.277 *543.253 (28)	526.251	-	525.267 *525.196 (20)
s	7	710.276 710.399 (8)	693.249	612.290 *612.324 (16)	692.265
P	8	807.328	790.302	709.343	789.318
S	9	894.361	877.334	796.375	876.350
E	10	1023.403 1023.397 (81)	1006.377	925.417 *925.455 (13)	1005.393 1005.387 (2)
S	11	1110.435 *1110.391 (100)	1093.409 *1093.486 (5)	1012.449 *1012.479 (20) *507.225 [2+] (5)	1092.425 *1092.467 (10)
P	12	1207.488	1190.461	1109.502	1189.477
A	13	1278.525	1261.498 631.381 [2+] (3)	1180.539	1260.514 *630.304 [2+] (24)
A	14	1349.562 1349.464 (2)	1332.536	1251.576	1331.552
E	15	1478.605 1478.679 (2)	1461.578	1380.619 *690.465 [2+] (14)	1460.594
R	16	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
G	16	-	-	-	-
S	15	1595.695	1578.668	1497.709	1577.684
E	14	1508.663	1491.636	1410.677	1490.652
L	13	1379.620 *690.465 [2+] (14)	1362.594	1281.634	1361.610
G	12	1266.536 633.810 [2+] (3) 1266.490 (16)	1249.510	1168.550	1248.526
V	11	1209.515 1209.448 (6)	1192.488	1111.529 1111.410 (38)	1191.504
s	10	1110.446 *1110.391 (100)	1093.420 *1093.486 (5)	1012.460 *1012.479 (20) *507.225 [2+] (5)	1092.436 *1092.467 (10)
P	9	943.448 943.439 (7)	926.422 *926.387 (18)	-	925.437 *925.455 (13)
S	8	846.395	829.369	-	828.385
E	7	759.363	742.337	-	741.353
S	6	630.321 *630.304 (24)	613.294 *613.308 (4)	-	612.310 *612.324 (16)
P	5	543.289 *543.253 (28)	526.262	-	525.278 *525.196 (20)
A	4	446.236	429.209	-	428.225
A	3	375.199 375.320 (3)	358.172	-	357.188
E	2	304.162 304.308 (2)	287.135	-	286.151
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
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0	80	45	56
0.5	77	44	57
1	64	41	64
2	50	32	64
3	40	26	65
4	32	21	65
5	25	19	76
10	15	13	86

### Observed ions > 1%

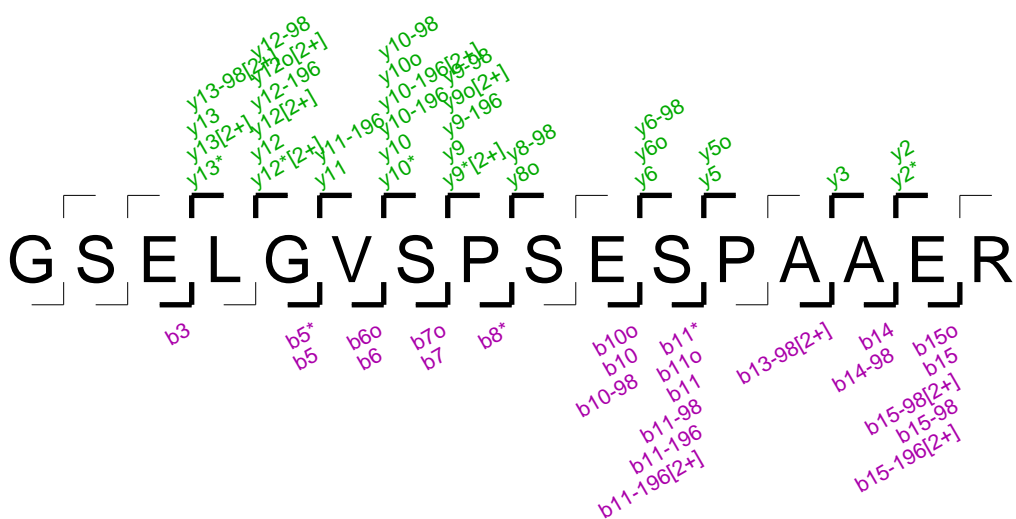
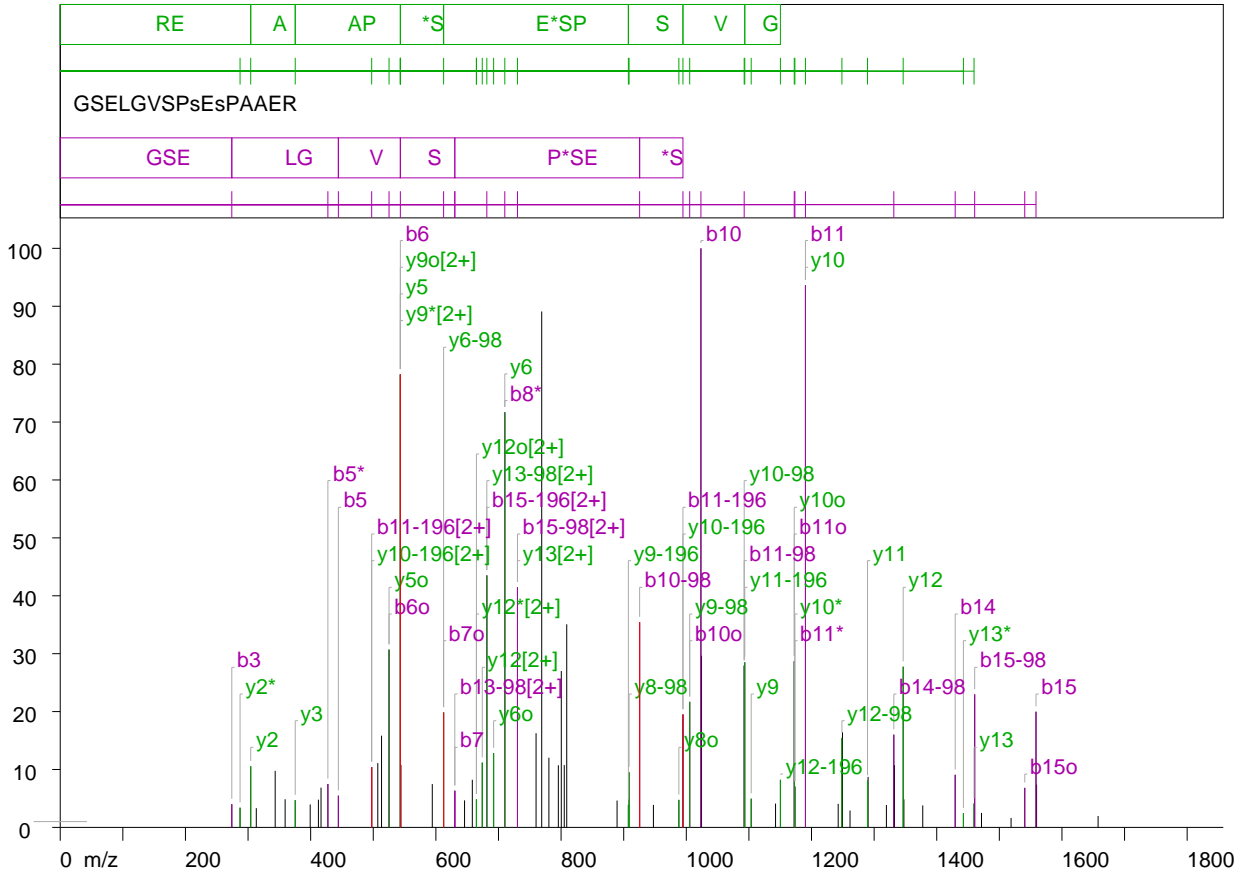
m/z	Intensity	% max	Assignment (delta)
274.222	114.99 <sub>2</sub>	1.15	b3 (0.11)
304.308	250.62 <sub>2</sub>	2.52	y2 (0.14)
368.963	315.51 <sub>2</sub>	3.18	b4o (-0.21)
375.320	298.77 <sub>2</sub>	3.01	y3 (0.12)
381.311	178.56 <sub>2</sub>	1.80	a8o[2+] (0.14) : a8*[2+] (-0.34)
387.182	182.47 <sub>2</sub>	1.83	b4 (-0.00)
394.193	148.79 <sub>2</sub>	1.50	x7[2+] (0.00)
426.307	291.38 <sub>2</sub>	2.93	b5o (0.10)
444.258	310.31 <sub>2</sub>	3.12	b5 (0.04)
480.337	296.34 <sub>2</sub>	2.98	
507.225	541.56 <sub>2</sub>	5.46	b11-98[2+] (0.49) : y10-98[2+] (0.49)
513.223	381.30 <sub>2</sub>	3.84	
515.288	567.13 <sub>2</sub>	5.71	a6 (0.00)
525.196	2051.77 <sub>2</sub>	20.68	b6o (-0.07) : y5o (-0.08)
543.253	2777.18 <sub>2</sub>	28.00	b6 (-0.02) : y5 (-0.03)
544.237	368.23 <sub>2</sub>	3.71	
594.306	477.11 <sub>2</sub>	4.81	
612.324	1599.36 <sub>2</sub>	16.12	b7-98 (0.03) : y6o (0.01) : c12[2+] (-0.43)
613.308	458.57 <sub>2</sub>	4.62	c12[2+] (0.54) : y6* (0.01) : z6 (0.01)
630.304	2420.94 <sub>2</sub>	24.41	y6 (-0.01) : b13o[2+] (-0.45)
631.381	381.05 <sub>2</sub>	3.84	b13*[2+] (0.12)
633.810	326.95 <sub>2</sub>	3.29	y12[2+] (0.03)
690.465	1400.12 <sub>2</sub>	14.11	y13[2+] (0.15) : b15-98[2+] (-0.34)
710.399	832.98 <sub>2</sub>	8.39	b7 (0.12)
719.822	508.30 <sub>2</sub>	5.12	
727.596	223.33 <sub>2</sub>	2.25	c7 (0.29)
768.813	405.19 <sub>2</sub>	4.08	x14[2+] (-0.02)
808.624	489.41 <sub>2</sub>	4.93	
809.440	435.11 <sub>2</sub>	4.38	
811.256	612.58 <sub>2</sub>	6.17	
817.223	445.11 <sub>2</sub>	4.48	

817.985	1983.84 <sub>3</sub>	20.00	
881.797	124.57 <sub>3</sub>	1.25	
925.455	1340.57 <sub>3</sub>	13.51	b10-98 (0.03) : y9o (0.01)
926.387	1820.69 <sub>3</sub>	18.35	z9 (-0.03) : y9* (-0.03)
927.395	295.77 <sub>3</sub>	2.98	
943.439	734.95 <sub>3</sub>	7.41	y9 (-0.00)
1005.387	295.99 <sub>3</sub>	2.98	b10o (-0.00)
1012.479	2009.85 <sub>3</sub>	20.26	b11-98 (0.02) : y10-98 (0.01)
1013.568	681.76 <sub>3</sub>	6.87	
1023.397	8074.30 <sub>3</sub>	81.41	b10 (-0.00)
1024.427	2803.53 <sub>3</sub>	28.26	
1078.777	245.92 <sub>3</sub>	2.47	
1079.488	201.12 <sub>3</sub>	2.02	
1092.467	1029.66 <sub>3</sub>	10.38	b11o (0.04) : y10o (0.03)
1093.486	538.53 <sub>3</sub>	5.43	b11* (0.07) : y10* (0.06) : z10 (0.06)
1110.391	9917.15 <sub>3</sub>	100	b11 (-0.04) : y10 (-0.05)
1111.410	3828.31 <sub>3</sub>	38.60	y11-98 (-0.11)
1145.703	172.71 <sub>3</sub>	1.74	
1168.527	127.41 <sub>3</sub>	1.28	y12-98 (-0.02)
1209.448	688.75 <sub>3</sub>	6.94	y11 (-0.06)
1210.514	390.48 <sub>3</sub>	3.93	
1248.514	148.39 <sub>3</sub>	1.49	y12o (-0.01)
1251.481	118.09 <sub>3</sub>	1.19	b14-98 (-0.09)
1266.490	1678.38 <sub>3</sub>	16.92	y12 (-0.04)
1267.460	755.73 <sub>3</sub>	7.62	
1278.547	179.36 <sub>3</sub>	1.80	b13 (0.02)
1331.582	161.68 <sub>3</sub>	1.63	b14o (0.02)
1349.464	283.02 <sub>3</sub>	2.85	b14 (-0.09)
1350.424	128.84 <sub>3</sub>	1.29	
1478.679	294.20 <sub>3</sub>	2.96	b15 (0.07)
1516.155	138.97 <sub>3</sub>	1.40	
1516.861	419.45 <sub>3</sub>	4.22	
1517.620	162.02 <sub>3</sub>	1.63	

S51 and  
S53 (diP)

# ProPhosSI MS/MS report

Mass: 866.843742 Charge: 2+





## Cav3.2 human

(43) 43 GSELGVSPsEsPAAER 58 1731.675 (-0.0035) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
9	(51)	Phospho (ST)	y8-98, y8°, y9-96,y9
11	(53)	Phospho (ST)	

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 2 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	2/2	
Four Sequential b or y ions	1/1	Sequence of four y ions found from y9-196 to y12-196.
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	4/4	NOTE: S-P is a low abundance fragmentation. PASS: y9-196> y8-196  PASS: b8< b7  NOTE: S-P is a low abundance fragmentation. PASS: y5> y4  PASS: b12-196< b11-196 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	9/6	ion 1 (mass: 1023.355: intensity: 302.70) assigned 1 times ion 2 (mass: 1190.319: intensity: 283.49) assigned 2 times ion 3 (mass: 769.078: intensity: 269.69) assigned 0 times ion 4 (mass: 543.255: intensity: 236.82) assigned 5 times ion 5 (mass: 710.116: intensity: 217.03) assigned 2 times ion 6 (mass: 681.402: intensity: 131.72) assigned 3 times ion 7 (mass: 730.314: intensity: 125.54) assigned 2 times ion 8 (mass: 925.444: intensity: 107.27) assigned 1 times ion 9 (mass: 809.014: intensity: 106.17) assigned 1 times ion 10 (mass: 525.202: intensity: 92.92) assigned 2 times

## Ion Table

46 ions assigned of 74 ions above threshold (62%).

### N-terminal ions

AA	N-ion	b	b*	b-196	b-98	bo
G	1	58.029	41.002	-	-	40.018
S	2	145.061	128.034	-	-	127.050
E	3	274.103 274.050 (4)	257.077	-	-	256.093
L	4	387.187	370.161	-	-	369.177
G	5	444.209 444.269 (5)	427.182 427.495 (7)	-	-	426.198
V	6	543.277 *543.255 (78)	526.251	-	-	525.267 *525.202 (30)
S	7	630.309 *630.281 (6)	613.283	-	-	612.299 *612.370 (19)
P	8	727.362	710.336 *710.116 (71)	-	-	709.352
s	9	894.361	877.334	-	796.375	876.350
E	10	1023.403 1023.355 (100)	1006.377	-	925.417 925.444 (35)	1005.393 *1005.423 (21)
s	11	1190.401 *1190.319 (93)	1173.375 *1173.429 (7)	994.430 *994.621 (19) *497.487 [2+] (10)	1092.416 *1092.458 (27)	1172.391 *1172.403 (28)
P	12	1287.454	1270.428	1091.482	1189.468	1269.444
A	13	1358.491	1341.465	1162.520	1260.505 *630.281 [2+] (6)	1340.481
A	14	1429.528 1429.463 (9)	1412.502	1233.557	1331.543 1331.457 (16)	1411.518
E	15	1558.571 1558.565 (19)	1541.545	1362.599 *681.402 [2+] (43)	1460.585 *730.314 [2+] (41) 1460.612 (22)	1540.560 1540.570 (6)
R	16	-	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-196	y-98	yo
G	16	-	-	-	-	-
S	15	1675.661	1658.635	1479.689	1577.675	1657.651
E	14	1588.629	1571.603	1392.657	1490.643	1570.619
L	13	1459.587 *730.314 [2+] (41) 1459.622 (4)	1442.560 *1442.608 (2)	1263.615	1361.601 *681.402 [2+] (43)	1441.576
G	12	1346.503 1346.388 (27) 674.091 [2+] (11)	1329.476 *664.761 [2+] (4)	1150.531 1150.325 (8)	1248.517 1248.557 (15)	1328.492 *664.761 [2+] (4)
V	11	1289.481 1289.449 (8)	1272.455	1093.509 1093.386 (28)	1191.495	1271.471
S	10	1190.413 *1190.319 (93)	1173.386 *1173.429 (7)	994.441 *994.621 (19) *497.487 [2+] (10)	1092.427 *1092.458 (27)	1172.402 *1172.403 (28)
P	9	1103.381 1103.668 (4)	1086.354 *543.255 [2+] (78)	907.409 907.466 (3)	1005.395 *1005.423 (21)	1085.370 *543.255 [2+] (78)
s	8	1006.328	989.301	810.356	908.342 908.564 (9)	988.317 988.123 (4)
E	7	839.330	822.303	-	741.344	821.319

s	6	710.287 *710.116 (71)	693.260	-	612.301 *612.370 (19)	692.276 *692.226 (12)
P	5	543.289 *543.255 (78)	526.262	-	-	525.278 *525.202 (30)
A	4	446.236	429.209	-	-	428.225
A	3	375.199 375.378 (4)	358.172	-	-	357.188
E	2	304.162 304.246 (10)	287.135 *287.233 (3)	-	-	286.151
R	1	175.119	158.092	-	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	76	47	61
0.5	76	47	61
1	76	47	61
2	74	46	62
3	71	45	63
4	64	42	65
5	51	34	66
10	36	24	66

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
274.050	12.15 <sub>2</sub>	4.01	b3 (-0.05)
287.233	10.32 <sub>2</sub>	3.40	y2* (0.09) : z2 (0.09)
304.246	31.94 <sub>2</sub>	10.55	y2 (0.08)
313.191	10.04 <sub>2</sub>	3.31	
343.346	29.56 <sub>2</sub>	9.76	
359.227	14.71 <sub>2</sub>	4.85	a4 (0.03)
375.378	14.25 <sub>2</sub>	4.70	y3 (0.17)
399.289	11.99 <sub>2</sub>	3.96	a5* (0.10)
412.397	14.49 <sub>2</sub>	4.78	
416.571	20.78 <sub>2</sub>	6.86	a5 (0.35)
427.495	22.69 <sub>2</sub>	7.49	b5* (0.31)
444.269	16.58 <sub>2</sub>	5.47	b5 (0.05)
497.487	31.53 <sub>2</sub>	10.41	a6o (0.21) : b11-196[2+] (-0.23) : y10-196[2+] (-0.23)
507.205	33.60 <sub>2</sub>	11.10	
513.215	47.95 <sub>2</sub>	15.84	
525.202	92.92 <sub>2</sub>	30.69	b6o (-0.06) : y5o (-0.07)
543.255	236.82 <sub>2</sub>	78.23	y9o[2+] (0.06) : b6 (-0.02) : y5 (-0.03) : y9*[2+] (-0.42) : z9[2+] (-0.42)
544.236	32.65 <sub>2</sub>	10.78	
594.263	22.64 <sub>2</sub>	7.47	

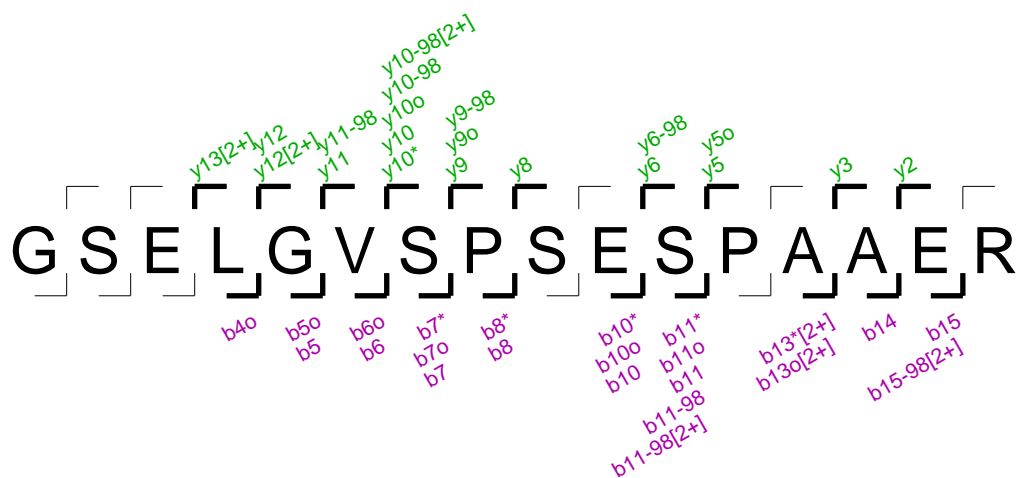
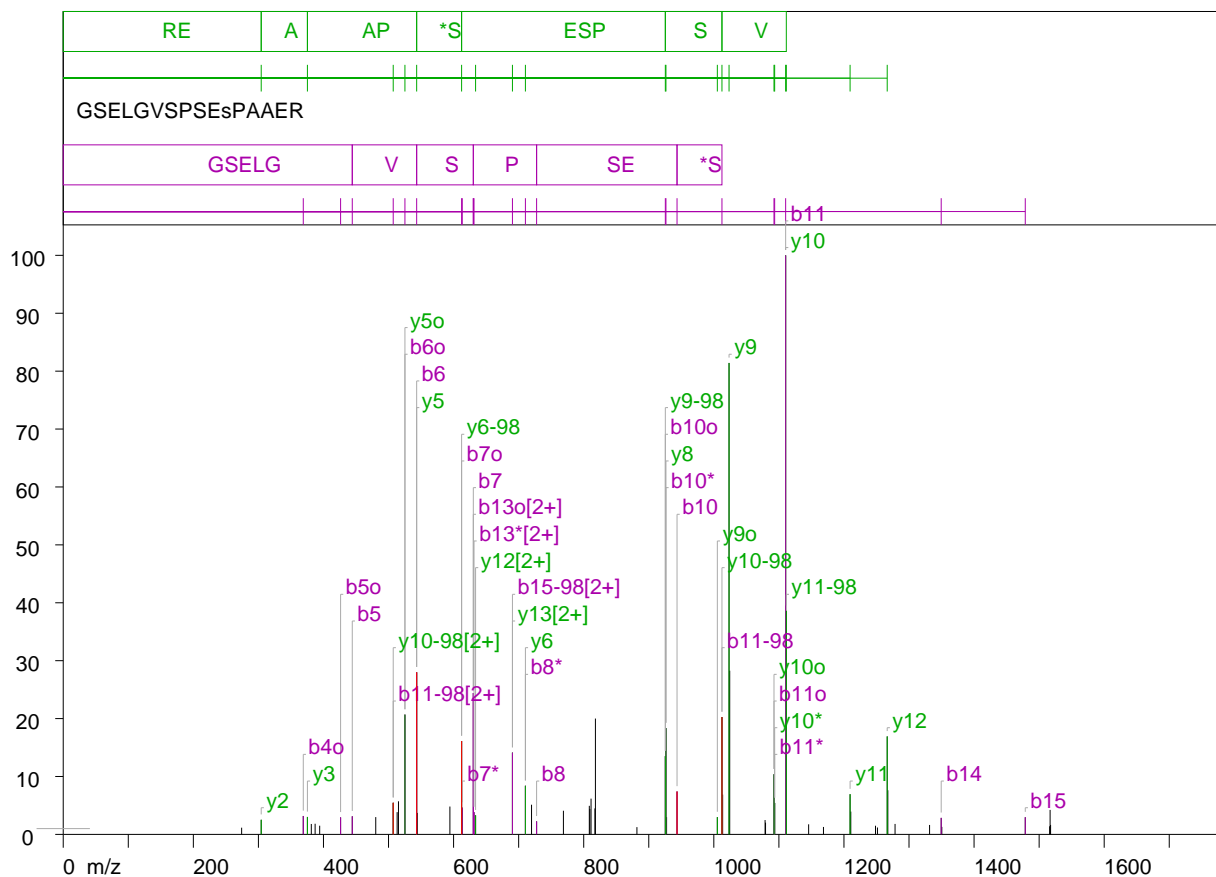
612.370	60.08 <sub>3</sub>	19.84	b7o (0.07) : y6-98 (0.06)
630.281	19.16 <sub>3</sub>	6.32	a12[2+] (0.04) : b7 (-0.02) : b13-98[2+] (-0.47)
645.790	14.14 <sub>3</sub>	4.67	
658.190	24.91 <sub>3</sub>	8.22	
664.761	14.66 <sub>3</sub>	4.84	y12o[2+] (0.01) : y12*[2+] (-0.48) : z12[2+] (-0.48)
674.091	33.87 <sub>3</sub>	11.18	y12[2+] (0.33)
681.402	131.72 <sub>3</sub>	43.51	y13-98[2+] (0.09) : a8o (0.04) : b15-196[2+] (-0.40)
692.226	38.82 <sub>3</sub>	12.82	a14o[2+] (-0.03) : y6o (-0.05)
710.116	217.03 <sub>3</sub>	71.69	y6 (-0.17) : b8* (-0.22)
730.314	125.54 <sub>3</sub>	41.47	y13[2+] (0.01) : b15-98[2+] (-0.48)
760.018	49.24 <sub>3</sub>	16.26	
769.078	269.69 <sub>3</sub>	89.09	
780.511	36.42 <sub>3</sub>	12.03	
795.613	32.49 <sub>3</sub>	10.73	
800.337	81.75 <sub>3</sub>	27.00	
805.065	32.57 <sub>3</sub>	10.75	
809.014	106.17 <sub>3</sub>	35.07	x14[2+] (0.19)
889.410	14.04 <sub>3</sub>	4.63	
907.466	11.80 <sub>3</sub>	3.89	y9-196 (0.05)
908.564	28.82 <sub>3</sub>	9.52	y8-98 (0.22)
925.444	107.27 <sub>3</sub>	35.43	b10-98 (0.02)
947.482	11.76 <sub>3</sub>	3.88	
988.123	14.40 <sub>3</sub>	4.75	y8o (-0.19)
994.621	59.01 <sub>3</sub>	19.49	b11-196 (0.19) : y10-196 (0.17)
1005.423	65.63 <sub>3</sub>	21.68	b10o (0.02) : y9-98 (0.02)
1023.355	302.70 <sub>3</sub>	100	b10 (-0.04)
1024.326	89.72 <sub>3</sub>	29.63	
1092.458	84.57 <sub>3</sub>	27.93	b11-98 (0.04) : y10-98 (0.03)
1093.386	86.32 <sub>3</sub>	28.51	y11-196 (-0.12)
1103.668	15.03 <sub>3</sub>	4.96	y9 (0.28)
1142.535	12.46 <sub>3</sub>	4.11	
1150.325	24.89 <sub>3</sub>	8.22	y12-196 (-0.20)
1172.403	86.91 <sub>3</sub>	28.71	b11o (0.01) : y10o (0.00)
1173.429	21.34 <sub>3</sub>	7.04	b11* (0.05) : y10* (0.04) : z10 (0.04)
1190.319	283.49 <sub>3</sub>	93.65	b11 (-0.08) : y10 (-0.09)
1242.567	12.33 <sub>3</sub>	4.07	a12* (0.13)
1248.557	46.79 <sub>3</sub>	15.45	y12-98 (0.03)
1249.475	49.72 <sub>3</sub>	16.42	
1261.514	8.84 <sub>3</sub>	2.92	

1289.449	24.42 <sub>,</sub>	8.06	y11 (-0.03)
1290.341	26.41 <sub>,</sub>	8.72	
1319.589	11.69 <sub>,</sub>	3.86	
1331.457	48.48 <sub>,</sub>	16.01	b14-98 (-0.08)
1332.475	32.57 <sub>,</sub>	10.75	
1346.388	84.01 <sub>,</sub>	27.75	y12 (-0.11)
1347.544	14.65 <sub>,</sub>	4.83	
1377.688	11.49 <sub>,</sub>	3.79	
1429.463	27.51 <sub>,</sub>	9.08	b14 (-0.06)
1442.608	7.40 <sub>,</sub>	2.44	y13* (0.04) : z13 (0.04)
1459.622	12.52 <sub>,</sub>	4.13	y13 (0.03)
1460.612	69.53 <sub>,</sub>	22.96	b15-98 (0.02)
1471.483	7.56 <sub>,</sub>	2.49	
1518.723	4.94 <sub>,</sub>	1.63	
1540.570	20.68 <sub>,</sub>	6.83	b15o (0.00)
1558.565	60.48 <sub>,</sub>	19.98	b15 (-0.00)
1559.521	22.34 <sub>,</sub>	7.38	
1657.733	5.95	1.96	y15o (0.08)

S53

# ProPhosSI MS/MS report

Mass: 826.862086 Charge: 2+



# GSELVSPSESPAAER

(72) 43 GSELVSPSESPAAER 58 1651.709 (-0.0005) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
11	(53)	Phospho (ST)	b10 => b14, b15

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	6 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	
Four Sequential b or y ions	1/1	Sequence of four b ions found from b5 to b8.
Five of six sequential ions present	1/1	Five of Six ions found between b5 and b10 Five of Six ions found between b6 and b11
Proline directed fragmentation pattern	4/4	NOTE: S-P is a low abundance fragmentation. PASS: y9-98> y8-98  PASS: b8< b7 with ratio 10.8  NOTE: S-P is a low abundance fragmentation. PASS: y5> y4  PASS: b12-98< b11-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 1110.391: intensity: 9917.15) assigned 2 times ion 2 (mass: 1023.397: intensity: 8074.30) assigned 1 times ion 3 (mass: 1111.410: intensity: 3828.31) assigned 1 times ion 4 (mass: 1024.427: intensity: 2803.53) assigned 0 times ion 5 (mass: 543.253: intensity: 2777.18) assigned 2 times ion 6 (mass: 630.304: intensity: 2420.94) assigned 2 times ion 7 (mass: 525.196: intensity: 2051.77) assigned 2 times ion 8 (mass: 1012.479: intensity: 2009.85) assigned 2 times ion 9 (mass: 817.985: intensity: 1983.84) assigned 0 times ion 10 (mass: 926.387: intensity: 1820.69) assigned 2 times

## Ion Table

33 ions assigned of 50 ions above threshold (66%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
G	1	58.029	41.002	-	40.018
S	2	145.061	128.034	-	127.050
E	3	274.103	257.077	-	256.093
L	4	387.187	370.161	-	369.177



-	-	-	-	-	368.963 (3)
G	5	444.209 444.258 (3)	427.182	-	426.198 426.307 (2)
V	6	543.277 *543.253 (28)	526.251	-	525.267 *525.196 (20)
S	7	630.309 *630.304 (24)	613.283 *613.308 (4)	-	612.299 *612.324 (16)
P	8	727.362 727.596 (2)	710.336 *710.399 (8)	-	709.352
S	9	814.394	797.368	-	796.384
E	10	943.437 943.439 (7)	926.410 *926.387 (18)	-	925.426 *925.455 (13)
s	11	1110.435 *1110.391 (100)	1093.409 *1093.486 (5)	1012.449 *1012.479 (20) *507.225 [2+] (5)	1092.425 *1092.467 (10)
P	12	1207.488	1190.461	1109.502	1189.477
A	13	1278.525	1261.498 631.381 [2+] (3)	1180.539	1260.514 *630.304 [2+] (24)
A	14	1349.562 1349.464 (2)	1332.536	1251.576	1331.552
E	15	1478.605 1478.679 (2)	1461.578	1380.619 *690.465 [2+] (14)	1460.594
R	16	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
G	16	-	-	-	-
S	15	1595.695	1578.668	1497.709	1577.684
E	14	1508.663	1491.636	1410.677	1490.652
L	13	1379.620 *690.465 [2+] (14)	1362.594	1281.634	1361.610
G	12	1266.536 633.810 [2+] (3) 1266.490 (16)	1249.510	1168.550	1248.526
V	11	1209.515 1209.448 (6)	1192.488	1111.529 1111.410 (38)	1191.504
S	10	1110.446 *1110.391 (100)	1093.420 *1093.486 (5)	1012.460 *1012.479 (20) *507.225 [2+] (5)	1092.436 *1092.467 (10)
P	9	1023.414 1023.397 (81)	1006.388	925.428 *925.455 (13)	1005.404 1005.387 (2)
S	8	926.362 *926.387 (18)	909.335	828.376	908.351
E	7	839.330	822.303	741.344	821.319
s	6	710.287 *710.399 (8)	693.260	612.301 *612.324 (16)	692.276
P	5	543.289 *543.253 (28)	526.262	-	525.278 *525.196 (20)
A	4	446.236	429.209	-	428.225
A	3	375.199 375.320 (3)	358.172	-	357.188
E	2	304.162 304.308 (2)	287.135	-	286.151
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	80	47	58
0.5	77	46	59
1	64	41	64
2	50	33	66
3	40	26	65
4	32	21	65
5	25	19	76
10	15	13	86

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
274.222	114.99 <sub>s</sub>	1.15	b3 (0.11)
304.308	250.62 <sub>s</sub>	2.52	y2 (0.14)
368.963	315.51 <sub>s</sub>	3.18	b4o (-0.21)
375.320	298.77 <sub>s</sub>	3.01	y3 (0.12)
381.311	178.56 <sub>s</sub>	1.80	
387.182	182.47 <sub>s</sub>	1.83	b4 (-0.00)
394.193	148.79 <sub>s</sub>	1.50	a9[2+] (0.48)
426.307	291.38 <sub>s</sub>	2.93	b5o (0.10)
444.258	310.31 <sub>s</sub>	3.12	b5 (0.04)
480.337	296.34 <sub>s</sub>	2.98	c10[2+] (-0.39)
507.225	541.56 <sub>s</sub>	5.46	b11-98[2+] (0.49) : y10-98[2+] (0.49)
513.223	381.30 <sub>s</sub>	3.84	
515.288	567.13 <sub>s</sub>	5.71	a6 (0.00)
525.196	2051.77 <sub>s</sub>	20.68	b6o (-0.07) : y5o (-0.08)
543.253	2777.18 <sub>s</sub>	28.00	b6 (-0.02) : y5 (-0.03)
544.237	368.23 <sub>s</sub>	3.71	
594.306	477.11 <sub>s</sub>	4.81	
612.324	1599.36 <sub>s</sub>	16.12	b7o (0.02) : y6-98 (0.02) : c12[2+] (-0.43)
613.308	458.57 <sub>s</sub>	4.62	c12[2+] (0.54) : b7* (0.02)
630.304	2420.94 <sub>s</sub>	24.41	b7 (-0.00) : b13o[2+] (-0.45)
631.381	381.05 <sub>s</sub>	3.84	b13*[2+] (0.12)
633.810	326.95 <sub>s</sub>	3.29	y12[2+] (0.03)
690.465	1400.12 <sub>s</sub>	14.11	y13[2+] (0.15) : b15-98[2+] (-0.34)
710.399	832.98 <sub>s</sub>	8.39	y6 (0.11) : b8* (0.06)
719.822	508.30 <sub>s</sub>	5.12	
727.596	223.33 <sub>s</sub>	2.25	b8 (0.23)
768.813	405.19 <sub>s</sub>	4.08	a9o (0.42) : x14[2+] (-0.02) : a9* (-0.56)
808.624	489.41 <sub>s</sub>	4.93	
809.440	435.11 <sub>s</sub>	4.38	
811.256	612.58 <sub>s</sub>	6.17	

817.223	445.11 <sub>3</sub>	4.48	
817.985	1983.84 <sub>3</sub>	20.00	
881.797	124.57 <sub>3</sub>	1.25	
925.455	1340.57 <sub>3</sub>	13.51	b10o (0.02) : y9-98 (0.02)
926.387	1820.69 <sub>3</sub>	18.35	y8 (0.02) : b10* (-0.02)
927.395	295.77 <sub>3</sub>	2.98	
943.439	734.95 <sub>3</sub>	7.41	b10 (0.00)
1005.387	295.99 <sub>3</sub>	2.98	y9o (-0.01)
1012.479	2009.85 <sub>3</sub>	20.26	b11-98 (0.02) : y10-98 (0.01)
1013.568	681.76 <sub>3</sub>	6.87	
1023.397	8074.30 <sub>3</sub>	81.41	y9 (-0.01)
1024.427	2803.53 <sub>3</sub>	28.26	
1078.777	245.92 <sub>3</sub>	2.47	
1079.488	201.12 <sub>3</sub>	2.02	
1092.467	1029.66 <sub>3</sub>	10.38	b11o (0.04) : y10o (0.03)
1093.486	538.53 <sub>3</sub>	5.43	b11* (0.07) : y10* (0.06) : z10 (0.06)
1110.391	9917.15 <sub>3</sub>	100	b11 (-0.04) : y10 (-0.05)
1111.410	3828.31 <sub>3</sub>	38.60	y11-98 (-0.11)
1145.703	172.71 <sub>3</sub>	1.74	
1168.527	127.41 <sub>3</sub>	1.28	y12-98 (-0.02)
1209.448	688.75 <sub>3</sub>	6.94	y11 (-0.06)
1210.514	390.48 <sub>3</sub>	3.93	
1248.514	148.39 <sub>3</sub>	1.49	y12o (-0.01)
1251.481	118.09 <sub>3</sub>	1.19	b14-98 (-0.09)
1266.490	1678.38 <sub>3</sub>	16.92	y12 (-0.04)
1267.460	755.73 <sub>3</sub>	7.62	
1278.547	179.36 <sub>3</sub>	1.80	b13 (0.02)
1331.582	161.68 <sub>3</sub>	1.63	b14o (0.02)
1349.464	283.02 <sub>3</sub>	2.85	b14 (-0.09)
1350.424	128.84 <sub>3</sub>	1.29	
1478.679	294.20 <sub>3</sub>	2.96	b15 (0.07)
1516.155	138.97 <sub>3</sub>	1.40	
1516.861	419.45 <sub>3</sub>	4.22	
1517.620	162.02 <sub>3</sub>	1.63	

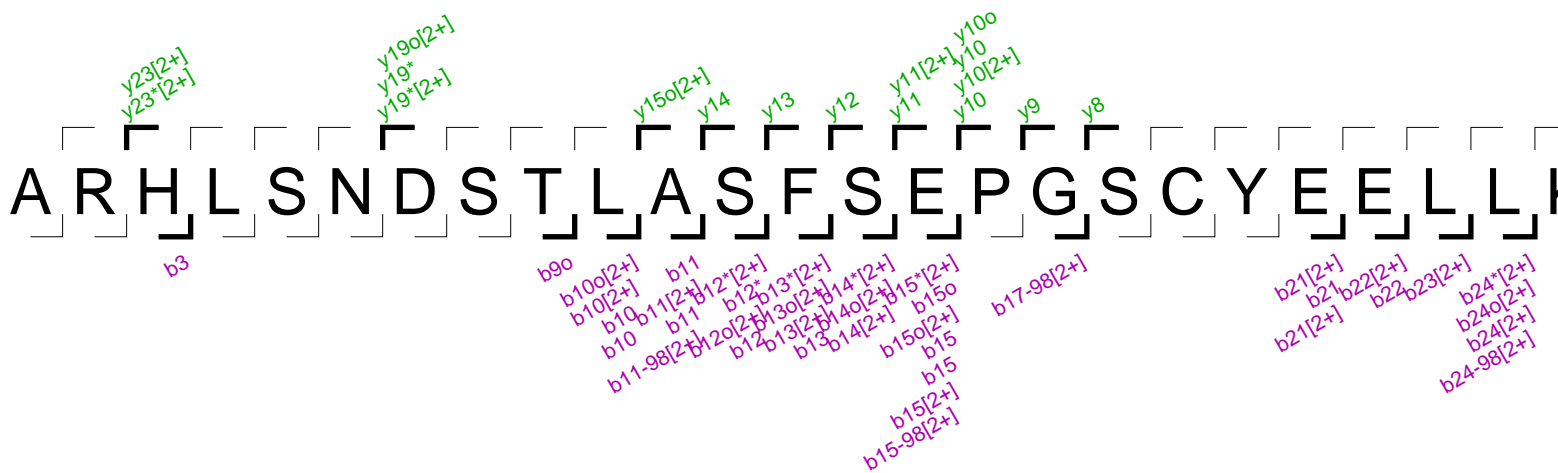
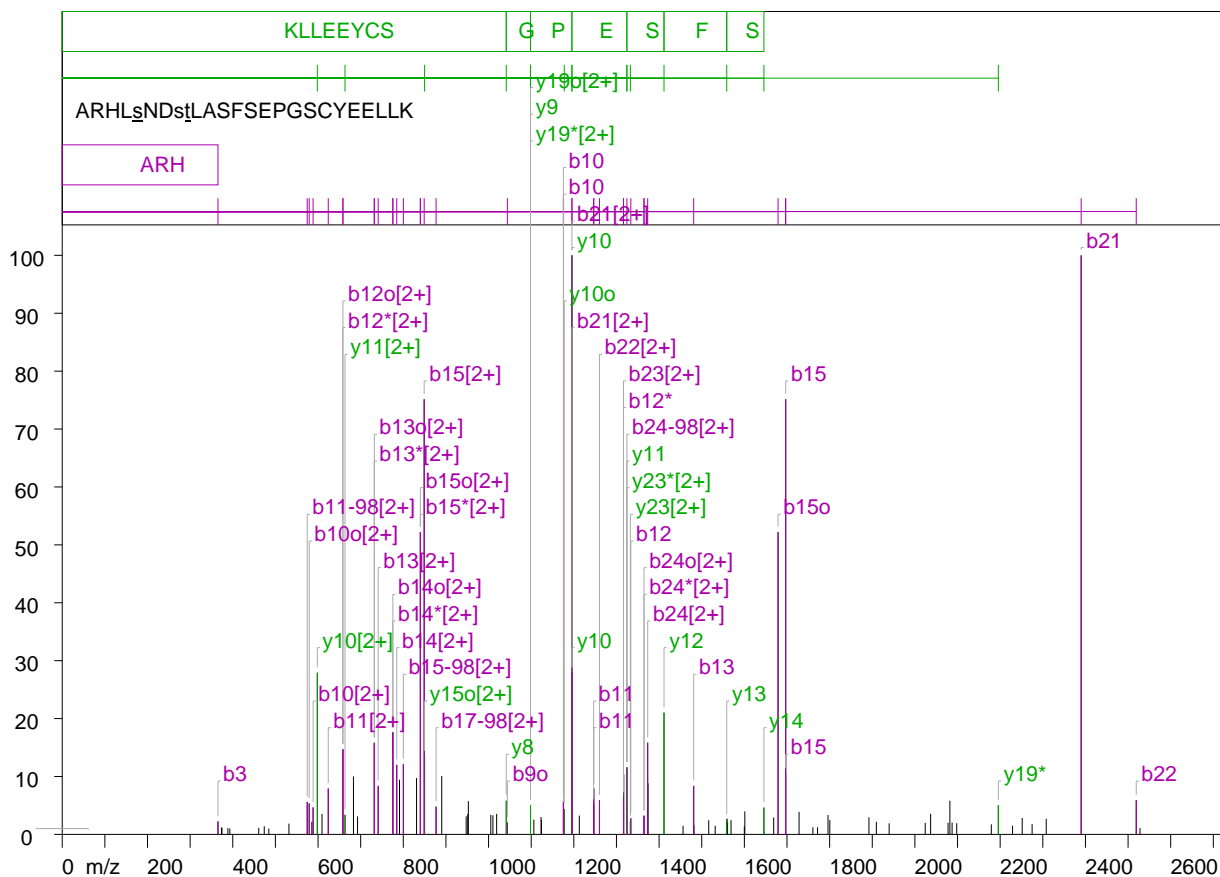
S442 or

S445 or

T446

# ProPhosSI MS/MS report

Mass: 964.433619 Charge: 3+



## Cav3.2 human

(49) 438 ARHL<sub>5</sub>ND<sub>5</sub>tLASFSEPGSCYEELLK 462 2890.284 (-0.0071) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
5 or 8 or 9	(442 or 445 or 446)	Phospho (ST)	b3 => b11-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	4 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b3 to b11-98[2+] support unique phosphorylation at position 5, 8 or 9
Four Sequential b or y ions	1/1	Sequence of four y ions found from y8 to y11.
Five of six sequential ions present	1/1	Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13 Five of Six ions found between y9 and y14 Five of Six ions found between y10 and y15
Proline directed fragmentation pattern	2/2	PASS: y10> y9 with ratio 19.8 PASS: b16-98< b15-98<
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	10/6	ion 1 (mass: 1195.483; intensity: 5522.62) assigned 2 times ion 2 (mass: 2389.959; intensity: 5522.62) assigned 1 times ion 3 (mass: 1696.960; intensity: 4151.02) assigned 1 times ion 4 (mass: 848.983; intensity: 4151.02) assigned 1 times ion 5 (mass: 1679.059; intensity: 2883.21) assigned 1 times ion 6 (mass: 840.033; intensity: 2883.21) assigned 2 times ion 7 (mass: 598.352; intensity: 1542.04) assigned 1 times ion 8 (mass: 1195.697; intensity: 1542.04) assigned 2 times ion 9 (mass: 1411.548; intensity: 1161.44) assigned 1 times ion 10 (mass: 775.486; intensity: 974.09) assigned 2 times

## Ion Table

48 ions assigned of 80 ions above threshold (60%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
A	1	72.044	55.018	-	54.034
R	2	228.146	211.119	-	210.135
H	3	365.204 365.334 (2)	348.178	-	347.194
L	4	478.289	461.262	-	460.278
S	5	565.321	548.294	-	547.310
N	6	679.364	662.337	-	661.353
D	7	794.390	777.364	-	776.380
s	8	961.389	944.362	863.403	943.378
T	9	1062.436	1045.410	964.451	1044.426 1044.114 (2)
L	10	1175.521 588.472 [2+] (4) 1175.936 (4) 1175.451 (5)	1158.494	1077.535	1157.510 579.247 [2+] (5)
A	11	1246.558 *1246.483 (5) 623.974 [2+] (7) 1246.941 (7)	1229.531	1148.572 *574.617 [2+] (5)	1228.547
S	12	1333.590 1333.689 (2)	1316.563 *658.377 [2+] (14) *1316.508 (6)	1235.604	1315.579 *658.377 [2+] (14)
F	13	1480.658 741.076 [2+] (8) 1481.145 (8)	1463.632 *731.948 [2+] (15)	1382.672	1462.648 *731.948 [2+] (15)
S	14	1567.690 784.641 [2+] (12)	1550.664 *775.486 [2+] (17)	1469.704	1549.680 *775.486 [2+] (17)
E	15	1696.733 1696.721 (10) 1696.960 (75) 848.983 [2+] (75)	1679.706 *840.033 [2+] (52)	1598.747 800.083 [2+] (12)	1678.722 1679.059 (52) *840.033 [2+] (52)
P	16	1793.786	1776.759	1695.800	1775.775
G	17	1850.807	1833.780	1752.821 876.945 [2+] (4)	1832.796
S	18	1937.839	1920.812	1839.853	1919.828
C	19	2097.870	2080.843	1999.884	2079.859
Y	20	2260.933	2243.906	2162.947	2242.922
E	21	2389.976 *1195.483 [2+] (100) 2389.959 (100) *1195.697 [2+] (27)	2372.949	2291.990	2371.965
E	22	2519.018 1260.102 [2+] (5) 2519.197 (5)	2501.992	2421.032	2501.008
L	23	2632.102 *1316.508 [2+] (6)	2615.076	2534.116	2614.092
L	24	2745.186 1373.238 [2+] (15)	2728.160 *1364.572 [2+] (3)	2647.200 *1324.523 [2+] (11)	2727.176 *1364.572 [2+] (3)
K	25	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
A	25	-	-	-	-
R	24	2820.255	2803.228	2722.269	2802.244

H	23	2664.154 1332.681 [2+] (2)	2647.127 *1324.523 [2+] (11)	2566.168	2646.143
L	22	2527.095	2510.068	2429.109	2509.084
S	21	2414.011	2396.984	2316.025	2396.000
N	20	2326.979	2309.952	2228.993	2308.968
D	19	2212.936	2195.909 *1098.375 [2+] (5) *2195.744 (5)	2114.950	2194.925 *1098.375 [2+] (5)
s	18	2097.909	2080.882	1999.923	2079.898
T	17	1930.910	1913.884	-	1912.900
L	16	1829.863	1812.836	-	1811.852
A	15	1716.779	1699.752	-	1698.768 849.875 [2+] (13)
S	14	1645.742 1645.849 (4)	1628.715	-	1627.731
F	13	1558.709 1558.650 (2)	1541.683	-	1540.699
S	12	1411.641 1411.548 (21)	1394.615	-	1393.631
E	11	1324.609 *1324.523 (11) 663.264 [2+] (3)	1307.582	-	1306.598
P	10	1195.566 *1195.483 (100) 598.352 [2+] (27) *1195.697 (27)	1178.540	-	1177.556 *1177.546 (4)
G	9	1098.514 *1098.375 (5)	1081.487	-	1080.503
S	8	1041.492 1041.540 (5)	1024.466	-	1023.482
C	7	954.460	937.434	-	936.450
Y	6	794.430	777.403	-	776.419
E	5	631.366	614.340	-	613.356
E	4	502.324	485.297	-	484.313
L	3	373.281	356.254	-	355.270
L	2	260.197	243.170	-	242.186
K	1	147.113	130.086	-	129.102

### Ion distribution

Threshold	Ion count	Matches	% matched
0	120	61	50
0.5	111	58	52
1	101	57	56
2	80	48	60
3	59	40	67
4	45	37	82
5	40	32	80
10	20	18	90

Observed ions > 1%



m/z	Intensity	% max	Assignment (delta)
365.334	124.49 <sub>3</sub>	2.25	b3 (0.12)
373.469	65.55 <sub>3</sub>	1.18	y3 (0.18)
374.649	63.44 <sub>3</sub>	1.14	a7o[2+] (-0.04)
388.569	59.90 <sub>3</sub>	1.08	b7o[2+] (-0.12) : y6o[2+] (-0.14)
460.914	61.95 <sub>3</sub>	1.12	b4* (-0.34)
473.865	77.43 <sub>3</sub>	1.40	
484.520	55.94 <sub>3</sub>	1.01	y4o (0.20)
531.795	102.86 <sub>3</sub>	1.86	b9[2+] (0.07)
574.617	309.46 <sub>3</sub>	5.60	a10[2+] (0.35) : b11-98[2+] (-0.17)
579.247	294.62 <sub>3</sub>	5.33	b10o[2+] (-0.01)
585.471	120.63 <sub>3</sub>	2.18	
588.472	257.80 <sub>3</sub>	4.66	b10[2+] (0.20)
598.352	1542.04 <sub>3</sub>	27.92	y10[2+] (0.06)
609.356	195.70 <sub>3</sub>	3.54	a11[2+] (-0.42)
623.974	437.67 <sub>3</sub>	7.92	b11[2+] (0.19)
658.377	810.98 <sub>3</sub>	14.68	b12o[2+] (0.08) : b12*[2+] (-0.40)
663.264	186.79 <sub>3</sub>	3.38	y11[2+] (0.45)
683.101	552.04 <sub>3</sub>	9.99	
692.682	171.22 <sub>3</sub>	3.10	
731.948	873.77 <sub>3</sub>	15.82	b13o[2+] (0.12) : b13*[2+] (-0.37)
741.076	463.09 <sub>3</sub>	8.38	b13[2+] (0.24)
775.486	974.09 <sub>3</sub>	17.63	b14o[2+] (0.14) : b14*[2+] (-0.34)
784.641	663.36 <sub>3</sub>	12.01	b14[2+] (0.29)
791.165	521.72 <sub>3</sub>	9.44	
800.083	670.19 <sub>3</sub>	12.13	b15-98[2+] (0.20)
831.073	537.55 <sub>3</sub>	9.73	
840.033	2883.21 <sub>3</sub>	52.20	b15o[2+] (0.16) : b15*[2+] (-0.32)
848.983	4151.02 <sub>3</sub>	75.16	b15[2+] (0.11)
849.875	745.50 <sub>3</sub>	13.49	y15o[2+] (-0.01)
876.945	264.91 <sub>3</sub>	4.79	b17-98[2+] (0.03)
890.170	557.87 <sub>3</sub>	10.10	
947.524	172.11 <sub>3</sub>	3.11	
951.133	194.00 <sub>3</sub>	3.51	
952.564	317.62 <sub>3</sub>	5.75	
1005.217	185.71 <sub>3</sub>	3.36	
1010.181	182.13 <sub>3</sub>	3.29	
1018.949	196.12 <sub>3</sub>	3.55	
1041.540	321.47 <sub>3</sub>	5.82	y8 (0.04)
1044.114	113.46 <sub>3</sub>	2.05	b9o (-0.31)

1098.375	278.36 <sub>3</sub>	5.04	y19o[2+] (0.40) : y19*[2+] (-0.08) : z19[2+] (-0.08) : y9 (-0.13)
1106.189	140.33 <sub>3</sub>	2.54	
1123.119	165.45 <sub>3</sub>	2.99	
1124.023	139.98 <sub>3</sub>	2.53	
1175.451	321.99 <sub>3</sub>	5.83	b10 (-0.07)
1175.936	257.80 <sub>3</sub>	4.66	b10 (0.41)
1177.546	242.46 <sub>3</sub>	4.39	y10o (-0.01) : x20[2+] (-0.44)
1195.483	5522.62 <sub>3</sub>	100	b21[2+] (-0.00) : y10 (-0.08)
1195.697	1542.04 <sub>3</sub>	27.92	b21[2+] (0.20) : y10 (0.13)
1212.874	179.57 <sub>3</sub>	3.25	
1246.483	284.26 <sub>3</sub>	5.14	a22[2+] (0.46) : b11 (-0.07)
1246.941	437.67 <sub>3</sub>	7.92	b11 (0.38)
1260.102	325.68 <sub>3</sub>	5.89	b22[2+] (0.08)
1316.508	351.77 <sub>3</sub>	6.36	b23[2+] (-0.04) : b12* (-0.05)
1317.201	572.10 <sub>3</sub>	10.35	
1324.523	638.53 <sub>3</sub>	11.56	y23*[2+] (0.45) : z23[2+] (0.45) : b24-98[2+] (0.41) : y11 (-0.08)
1332.681	123.60 <sub>3</sub>	2.23	y23[2+] (0.10)
1333.689	153.34 <sub>3</sub>	2.77	b12 (0.09)
1364.572	178.03 <sub>3</sub>	3.22	b24o[2+] (0.47) : b24*[2+] (-0.01)
1373.238	875.10 <sub>3</sub>	15.84	b24[2+] (0.14)
1374.002	487.56 <sub>3</sub>	8.82	
1411.548	1161.44 <sub>3</sub>	21.03	y12 (-0.09)
1456.196	81.87 <sub>3</sub>	1.48	
1480.710	92.75 <sub>3</sub>	1.67	b13 (0.05)
1481.145	463.09 <sub>3</sub>	8.38	b13 (0.48)
1481.733	82.70 <sub>3</sub>	1.49	
1516.451	135.74 <sub>3</sub>	2.45	
1531.598	81.95 <sub>3</sub>	1.48	
1558.650	141.85 <sub>3</sub>	2.56	y13 (-0.05)
1559.369	150.70 <sub>3</sub>	2.72	
1560.592	115.02 <sub>3</sub>	2.08	
1568.741	136.58 <sub>3</sub>	2.47	
1599.887	75.71 <sub>3</sub>	1.37	
1601.061	219.31 <sub>3</sub>	3.97	
1645.849	255.47 <sub>3</sub>	4.62	y14 (0.10)
1668.787	160.82 <sub>3</sub>	2.91	a15 (0.04)
1679.059	2883.21 <sub>3</sub>	52.20	b15o (0.33)
1696.721	580.04 <sub>3</sub>	10.50	b15 (-0.01)
1696.960	4151.02 <sub>3</sub>	75.16	b15 (0.22)

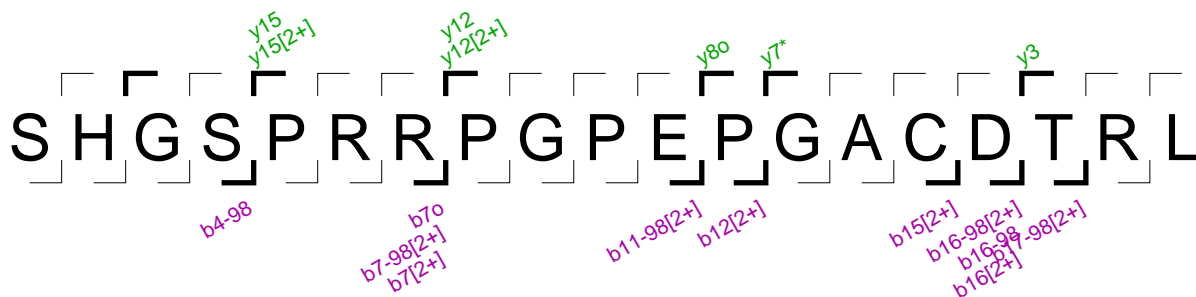
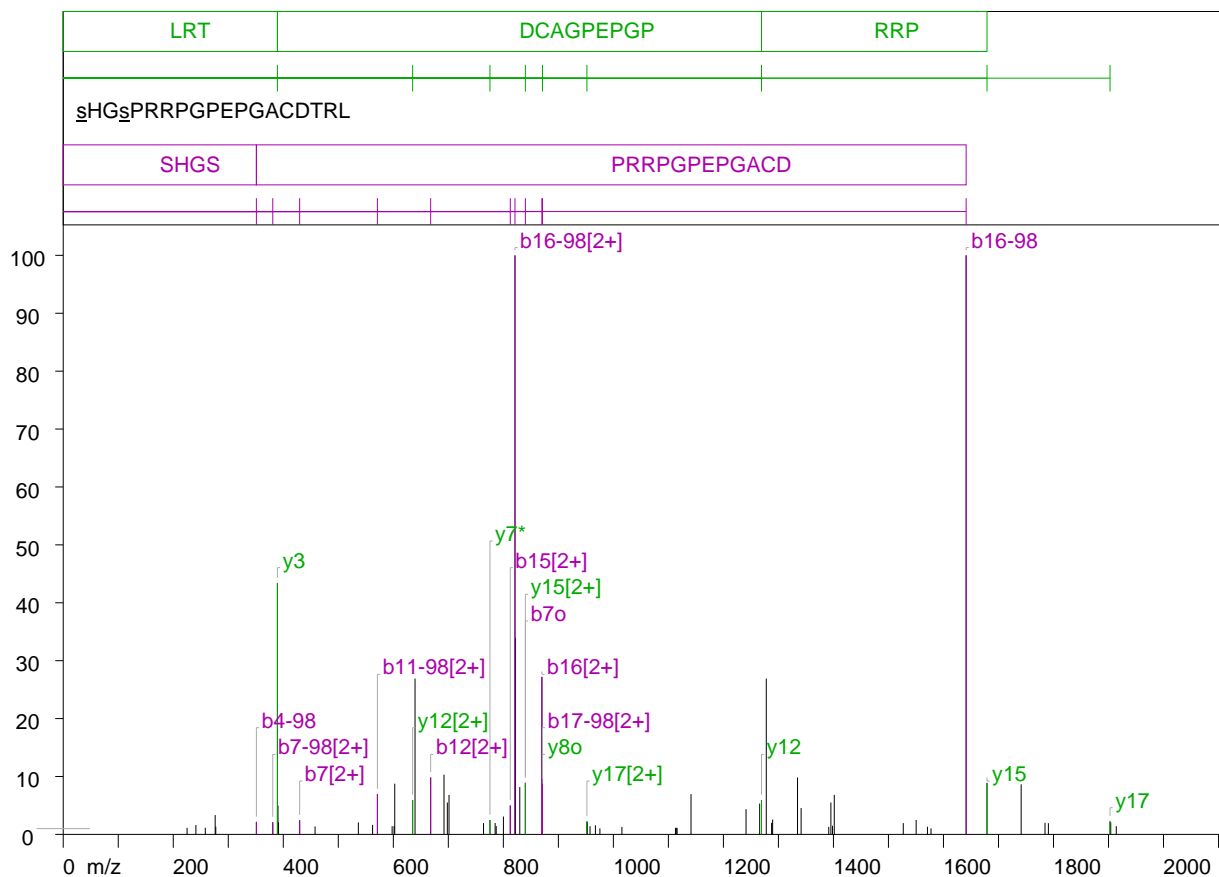
1728.268	214.96 <sub>2</sub>	3.89	
1760.744	68.35 <sub>2</sub>	1.23	
1771.605	68.23 <sub>2</sub>	1.23	
1796.201	184.76 <sub>2</sub>	3.34	
1800.453	136.86 <sub>2</sub>	2.47	
1892.169	163.13 <sub>2</sub>	2.95	a18o (0.33)
1909.585	119.99 <sub>2</sub>	2.17	a18 (-0.25)
1939.601	105.37 <sub>2</sub>	1.90	
2024.197	109.78 <sub>2</sub>	1.98	
2036.890	196.12 <sub>2</sub>	3.55	
2077.773	111.25 <sub>2</sub>	2.01	
2082.072	321.47 <sub>2</sub>	5.82	
2087.221	113.46 <sub>2</sub>	2.05	
2098.087	106.93 <sub>2</sub>	1.93	b19 (0.21) : y18 (0.17)
2179.182	96.08 <sub>2</sub>	1.73	
2195.744	278.36 <sub>2</sub>	5.04	y19* (-0.16) : z19 (-0.16)
2229.051	81.82 <sub>2</sub>	1.48	y20-98 (0.05)
2251.722	156.79 <sub>2</sub>	2.83	
2274.909	97.49 <sub>2</sub>	1.76	
2308.054	148.84 <sub>2</sub>	2.69	
2389.959	5522.62 <sub>2</sub>	100	b21 (-0.01)
2519.197	325.68 <sub>2</sub>	5.89	b22 (0.17)
2528.084	59.95	1.08	

**S532 or**

**S535**

# ProPhosSI MS/MS report

Mass: 709.655781 Charge: 3+



## Cav3.2 human

(21) 532  $\tilde{s}$ HG<sub>s</sub>PRRPGPEPGACDTRL 550 2125.947 (-0.0038) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
1 or 4	(532) or (535)	Phospho (ST)	b11-98[2+],b12

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	5 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	5/5	NOTE: S-P is a low abundance fragmentation. PASS: y15> y14  PASS: b5-98< b4-98  PASS: y12> y11  PASS: b8-98< b7-98  NOTE: G-P is a low abundance fragmentation. No proline ions at y10 No proline ions at b10-98  No proline ions at y8 PASS: b12-98< b11-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	6/6	ion 1 (mass: 821.117: intensity: 3508.29) assigned 2 times ion 2 (mass: 1641.226: intensity: 3508.29) assigned 1 times ion 3 (mass: 389.294: intensity: 1523.54) assigned 1 times ion 4 (mass: 822.062: intensity: 1191.72) assigned 0 times ion 5 (mass: 870.061: intensity: 954.60) assigned 1 times ion 6 (mass: 1277.942: intensity: 943.77) assigned 0 times ion 7 (mass: 639.475: intensity: 943.77) assigned 0 times ion 8 (mass: 692.151: intensity: 361.73) assigned 1 times ion 9 (mass: 667.867: intensity: 344.72) assigned 1 times ion 10 (mass: 1334.727: intensity: 344.72) assigned 0 times

## Ion Table

20 ions assigned of 43 ions above threshold (46%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
S	1	88.039	71.013	-	70.029
H	2	225.098	208.072	-	207.088
G	3	282.120	265.093	-	264.109
s	4	449.118	432.092	351.132 351.115 (2)	431.108
P	5	546.171	529.144	448.185	528.160
R	6	702.272	685.245	604.286	684.261
R	7	858.373 429.728 [2+] (2)	841.347	760.387 380.862 [2+] (2)	840.363 *840.061 (8)
P	8	955.426	938.399	857.440	937.415
G	9	1012.447	995.421	914.461	994.437
P	10	1109.500	1092.474	1011.514	1091.490
E	11	1238.543	1221.516	1140.557 571.064 [2+] (6)	1220.532
P	12	1335.595 667.867 [2+] (9)	1318.569	1237.610	1317.585
G	13	1392.617	1375.590	1294.631	1374.606
A	14	1463.654	1446.628	1365.668	1445.643
C	15	1623.685 *812.582 [2+] (4)	1606.658	1525.699	1605.674
D	16	1738.712 870.061 [2+] (27)	1721.685	1640.726 *821.117 [2+] (100) 1641.226 (100)	1720.701
T	17	1839.759	1822.733	1741.773 *871.124 [2+] (8)	1821.749
R	18	1995.860	1978.834	1897.875	1977.850
L	19	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
S	19	-	-	-	-
H	18	2039.923	2022.896	1941.937	2021.912
G	17	1902.864 951.878 [2+] (2) 1902.748 (2)	1885.838	1804.878	1884.854
s	16	1845.843	1828.816	1747.857	1827.832
P	15	1678.844 *840.061 [2+] (8) 1679.114 (8)	1661.818	-	1660.834
R	14	1581.792	1564.765	-	1563.781
R	13	1425.690	1408.664	-	1407.680
P	12	1269.589 635.134 [2+] (5) 1269.261 (5)	1252.563	-	1251.579
G	11	1172.537	1155.510	-	1154.526
P	10	1115.515	1098.489	-	1097.505
E	9	1018.462	1001.436	-	1000.452
P	8	889.420	872.393	-	871.409 *871.124 (8)

G	7	792.367	775.340 *775.676 (2)	-	774.356
A	6	735.345	718.319	-	717.335
C	5	664.308	647.282	-	646.298
D	4	504.278	487.251	-	486.267
T	3	389.251 389.294 (43)	372.224	-	371.240
R	2	288.203	271.177	-	270.193
L	1	132.102	115.075	-	114.091

### Ion distribution

Threshold	Ion count	Matches	% matched
0	98	35	35
0.5	87	34	39
1	70	27	38
2	43	20	46
3	31	13	41
4	29	13	44
5	25	12	48
10	8	5	62

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
225.105	39.80 <sub>2</sub>	1.13	b4[2+] (0.04) : b2 (0.00)
241.153	56.62 <sub>2</sub>	1.61	
258.241	40.50 <sub>2</sub>	1.15	
276.176	117.25 <sub>2</sub>	3.34	
277.267	47.17 <sub>2</sub>	1.34	
351.115	75.73 <sub>2</sub>	2.15	b4-98 (-0.01)
380.862	73.83 <sub>2</sub>	2.10	b7-98[2+] (0.16)
389.294	1523.54 <sub>2</sub>	43.42	y3 (0.04)
390.400	174.36 <sub>2</sub>	4.96	
391.383	72.96 <sub>2</sub>	2.07	
429.728	86.04 <sub>2</sub>	2.45	b7[2+] (0.03)
457.783	48.23 <sub>2</sub>	1.37	b9-98[2+] (0.04)
536.451	72.56 <sub>2</sub>	2.06	
562.363	57.77 <sub>2</sub>	1.64	
571.064	244.46 <sub>2</sub>	6.96	b11-98[2+] (0.28)
597.819	49.70 <sub>2</sub>	1.41	
601.323	50.40 <sub>2</sub>	1.43	
602.579	307.22 <sub>2</sub>	8.75	
635.134	207.50 <sub>2</sub>	5.91	y12[2+] (-0.16)
639.475	943.77 <sub>2</sub>	26.90	



667.867	344.72 <sub>2</sub>	9.82	b12[2+] (-0.43)
692.151	361.73 <sub>2</sub>	10.31	x5 (-0.15)
698.174	193.18 <sub>2</sub>	5.50	
701.267	239.42 <sub>2</sub>	6.82	
763.972	68.57 <sub>2</sub>	1.95	
775.676	86.96 <sub>2</sub>	2.47	z7 (0.33) : y7* (0.33)
785.058	69.34 <sub>2</sub>	1.97	
786.993	50.49 <sub>2</sub>	1.43	
800.141	108.27 <sub>2</sub>	3.08	
812.582	175.15 <sub>2</sub>	4.99	b15[2+] (0.23) : a7o (0.21)
821.117	3508.29 <sub>2</sub>	100	c15[2+] (0.25) : b16-98[2+] (0.24)
822.062	1191.72 <sub>2</sub>	33.96	
829.855	286.81 <sub>2</sub>	8.17	
840.061	312.17 <sub>2</sub>	8.89	y15[2+] (0.13) : b7o (-0.30)
870.061	954.60 <sub>2</sub>	27.20	b16[2+] (0.20)
871.124	303.39 <sub>2</sub>	8.64	b17-98[2+] (-0.26) : y8o (-0.28)
951.878	79.39 <sub>2</sub>	2.26	y17[2+] (-0.05)
952.543	72.28 <sub>2</sub>	2.06	
957.563	49.77 <sub>2</sub>	1.41	
967.329	55.57 <sub>2</sub>	1.58	a9* (-0.09)
975.507	36.31 <sub>2</sub>	1.03	a18o[2+] (0.07) : a18*[2+] (-0.41)
1015.509	45.13 <sub>2</sub>	1.28	
1112.827	40.04 <sub>2</sub>	1.14	
1115.244	40.23 <sub>2</sub>	1.14	y10 (-0.27)
1115.587	39.10 <sub>2</sub>	1.11	y10 (0.07)
1141.120	244.46 <sub>2</sub>	6.96	
1241.159	152.77 <sub>2</sub>	4.35	
1265.931	186.61 <sub>2</sub>	5.31	
1269.261	207.50 <sub>2</sub>	5.91	y12 (-0.32)
1277.942	943.77 <sub>2</sub>	26.90	
1287.563	69.84 <sub>2</sub>	1.99	
1289.461	89.72 <sub>2</sub>	2.55	a12o (-0.12)
1334.727	344.72 <sub>2</sub>	9.82	
1341.234	159.53 <sub>2</sub>	4.54	
1391.479	45.72 <sub>2</sub>	1.30	
1395.340	193.18 <sub>2</sub>	5.50	
1398.330	52.41 <sub>2</sub>	1.49	
1401.527	239.42 <sub>2</sub>	6.82	
1526.938	68.57 <sub>2</sub>	1.95	
1550.345	86.96 <sub>2</sub>	2.47	
1570.876	46.10 <sub>2</sub>	1.31	

1577.382	36.55,	1.04	a15o (-0.29)
1641.226	3508.29,	100	b16-98 (0.49)
1679.114	312.17,	8.89	y15 (0.26)
1741.240	303.39,	8.64	
1784.565	70.02,	1.99	
1790.733	67.87,	1.93	
1902.748	79.39,	2.26	y17 (-0.11)
1904.080	72.28,	2.06	
1914.119	49.77	1.41	

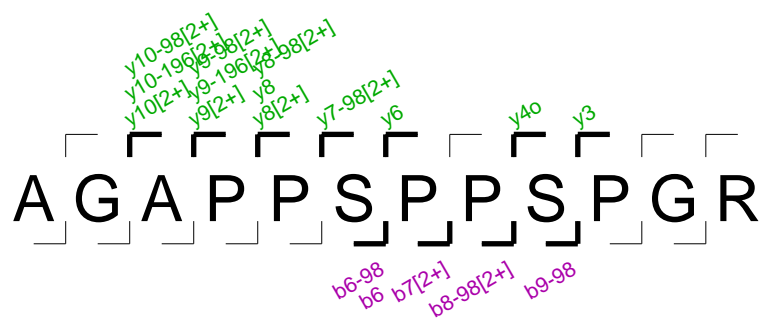
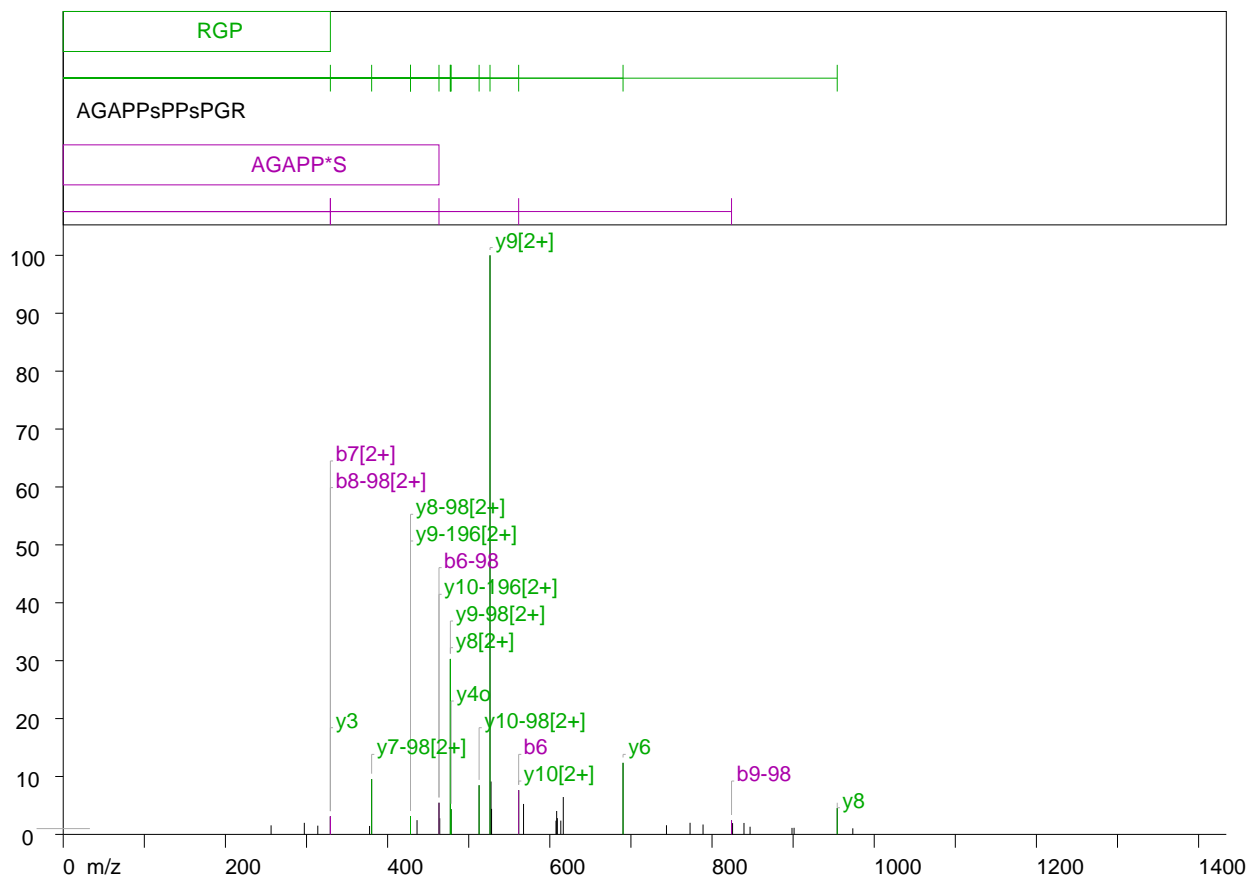
S558 and

S561

(diP)

# ProPhosSI MS/MS report

Mass: 625.751290 Charge: 2+



## Cav3.2 human

(21) 553 AGAPPsPPsPGR 564 1249.489 (-0.0024) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
6	(558)	Phospho (ST)	
9	(561)	Phospho (ST)	

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 2 phosphate ions were not found
Three -98 Ions present	1/1	4 des-phospho fragment ions were found.
Unique -98 transitions present	1/2	
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	3/4	PASS: y9-196> y8-196  No proline ions at b4  NOTE: P-P is a low abundance fragmentation. No proline ions at y8-196 No proline ions at b5  NOTE: S-P is a low abundance fragmentation. No proline ions at y6-98 PASS: b7-98< b6-98  NOTE: P-P is a low abundance fragmentation. No proline ions at y5-98 FAIL: b8-98> b7-98 NOTE: S-P is a low abundance fragmentation. PASS: y3> y2  No proline ions at b10-196 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 526.258: intensity: 1303.95) assigned 1 times ion 2 (mass: 477.381: intensity: 395.10) assigned 2 times ion 3 (mass: 690.302: intensity: 161.17) assigned 1 times ion 4 (mass: 380.291: intensity: 124.65) assigned 1 times ion 5 (mass: 527.497: intensity: 119.07) assigned 0 times ion 6 (mass: 512.793: intensity: 110.68) assigned 1 times ion 7 (mass: 561.577: intensity: 99.67) assigned 2 times ion 8 (mass: 616.609: intensity: 84.15) assigned 0 times ion 9 (mass: 463.336: intensity:

-	-	71.17) assigned 2 times ion 10 (mass: 567.587: intensity: 68.57) assigned 0 times
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## Ion Table

13 ions assigned of 23 ions above threshold (56%).

### N-terminal ions

AA	N-ion	b	b*	b-196	b-98	bo
A	1	72.044	55.018	-	-	54.034
G	2	129.066	112.039	-	-	111.055
A	3	200.103	183.076	-	-	182.092
P	4	297.156	280.129	-	-	279.145
P	5	394.209	377.182	-	-	376.198
s	6	561.207 *561.577 (7)	544.180	-	463.221 *463.336 (5)	543.196
P	7	658.260 *329.413 [2+] (3)	641.233	-	560.274	640.249
P	8	755.312	738.286	-	657.327 *329.413 [2+] (3)	737.302
s	9	922.311	905.284	726.339	824.325 824.064 (2)	904.300
P	10	1019.364	1002.337	823.392	921.378	1001.353
G	11	1076.385	1059.358	880.413	978.399	1058.374
R	12	-	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-196	y-98	yo
A	12	-	-	-	-	-
G	11	1179.460	1162.433	983.488	1081.474	1161.449
A	10	1122.438 *561.577 [2+] (7)	1105.412	926.466 *463.336 [2+] (5)	1024.452 512.793 [2+] (8)	1104.428
P	9	1051.401 526.258 [2+] (100)	1034.374	855.429 *428.198 [2+] (3)	953.415 *477.381 [2+] (30)	1033.390
P	8	954.348 *477.381 [2+] (30) 954.383 (4)	937.322	758.376	856.362 *428.198 [2+] (3)	936.338
s	7	857.295	840.269	661.324	759.310 380.291 [2+] (9)	839.285
P	6	690.297 690.302 (12)	673.271	-	592.311	672.287
P	5	593.244	576.218	-	495.258	575.234
s	4	496.192	479.165	-	398.206	478.181 478.318 (4)
P	3	329.193 *329.413 (3)	312.167	-	-	311.183
G	2	232.140	215.114	-	-	214.130
R	1	175.119	158.092	-	-	157.108

## Ion distribution

Threshold	Ion count	Matches	% matched
0	50	23	46
0.5	46	21	45
1	35	18	51
2	22	13	59
3	16	11	68
4	14	9	64
5	10	7	70
10	3	3	100

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
256.306	20.40 <sub>5</sub>	1.56	
297.278	26.04 <sub>5</sub>	1.99	y5[2+] (0.15) : b4 (0.12)
313.876	19.69 <sub>5</sub>	1.51	c4 (-0.30)
329.413	40.48 <sub>5</sub>	3.10	b8-98[2+] (0.24) : y3 (0.21) : b7[2+] (-0.22)
377.727	19.00 <sub>5</sub>	1.45	b8[2+] (-0.43)
380.291	124.65 <sub>5</sub>	9.55	y7-98[2+] (0.13)
428.198	41.23 <sub>5</sub>	3.16	y9-196[2+] (-0.02) : y8-98[2+] (-0.48)
436.265	32.09 <sub>5</sub>	2.46	
463.336	71.17 <sub>5</sub>	5.45	b6-98 (0.11) : y10-196[2+] (-0.40)
464.239	36.35 <sub>5</sub>	2.78	
477.381	395.10 <sub>5</sub>	30.30	y9-98[2+] (0.16) : y8[2+] (-0.29)
478.318	56.87 <sub>5</sub>	4.36	y4o (0.13)
512.793	110.68 <sub>5</sub>	8.48	y10-98[2+] (0.06)
526.258	1303.95 <sub>5</sub>	100	y9[2+] (0.05)
527.497	119.07 <sub>5</sub>	9.13	
528.172	57.50 <sub>5</sub>	4.40	
561.577	99.67 <sub>5</sub>	7.64	b6 (0.36) : y10[2+] (-0.14)
567.587	68.57 <sub>5</sub>	5.25	
607.610	30.91 <sub>5</sub>	2.37	
608.451	52.73 <sub>5</sub>	4.04	
609.260	36.63 <sub>5</sub>	2.80	
613.532	31.03 <sub>5</sub>	2.37	a7* (0.29)
616.609	84.15 <sub>5</sub>	6.45	
690.302	161.17 <sub>5</sub>	12.36	y6 (0.00)
743.845	20.62 <sub>5</sub>	1.58	
772.919	26.15 <sub>5</sub>	2.00	
788.925	22.29 <sub>5</sub>	1.70	
824.064	31.68 <sub>5</sub>	2.42	b9-98 (-0.26)

825.327	25.53 <sub>3</sub>	1.95	
839.413	25.79 <sub>3</sub>	1.97	y7o (0.12)
846.913	17.26 <sub>3</sub>	1.32	
898.609	14.64 <sub>3</sub>	1.12	
901.191	14.86 <sub>3</sub>	1.13	
954.383	59.24 <sub>3</sub>	4.54	y8 (0.03)
973.603	13.69 <sub>3</sub>	1.04	a10o (0.24)

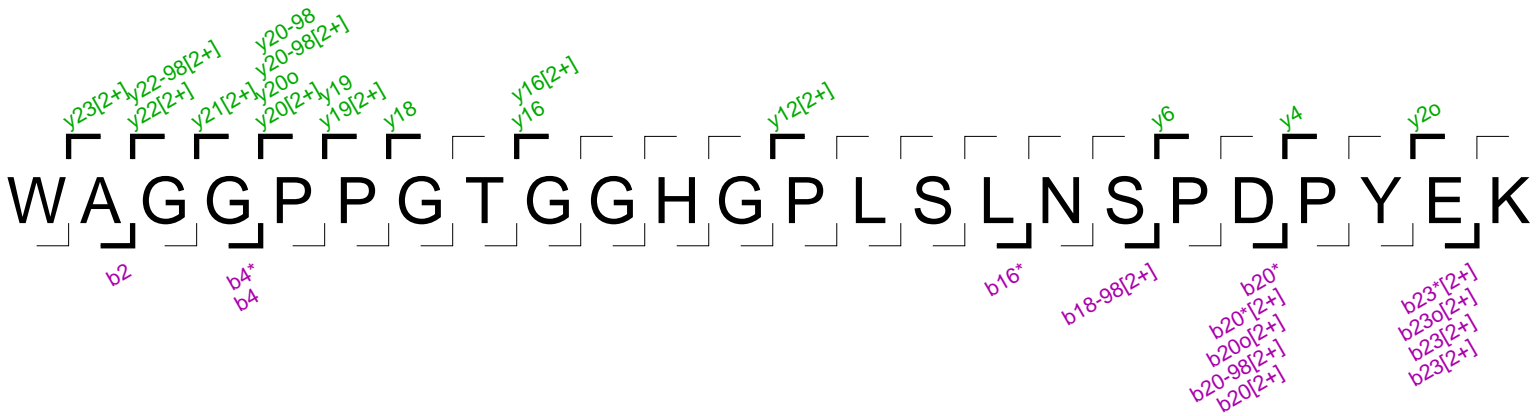
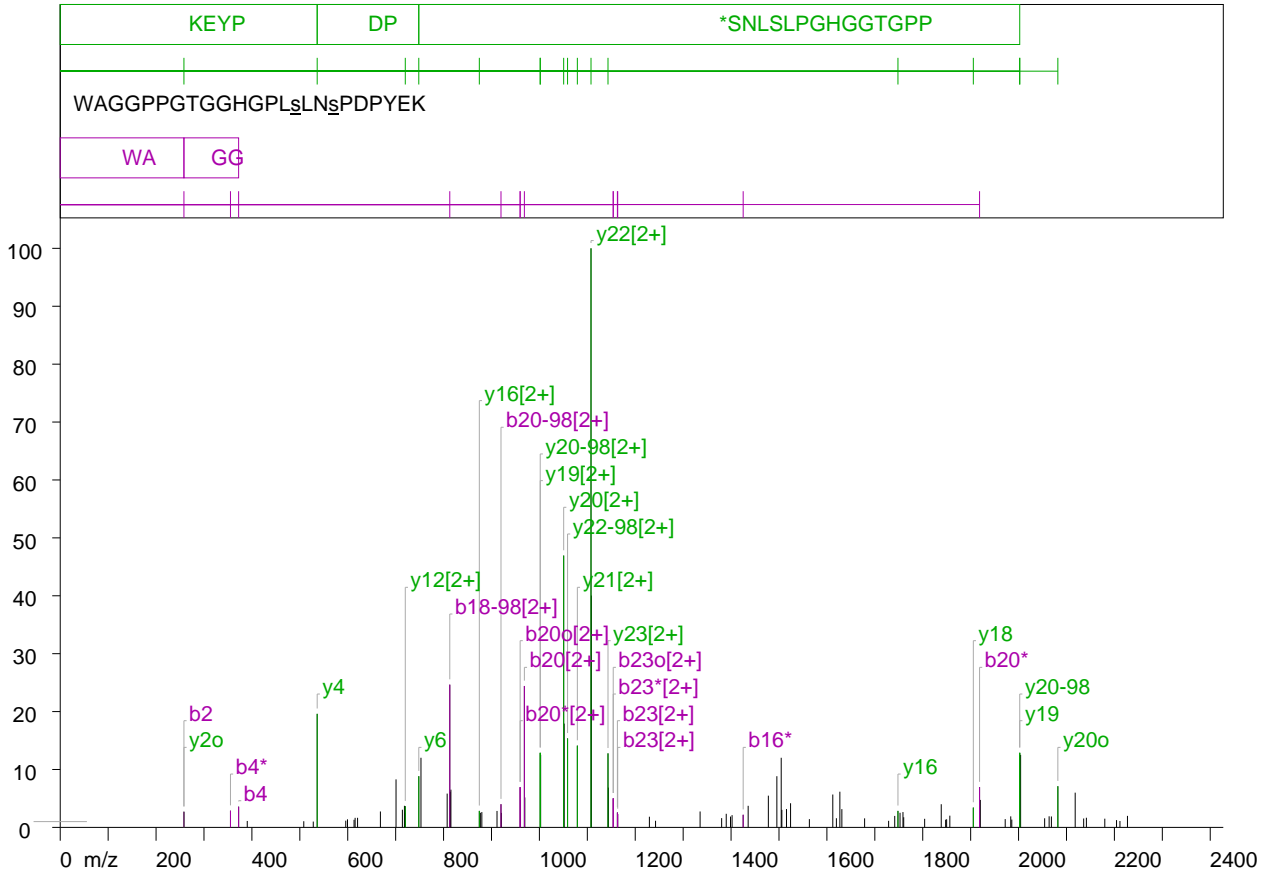


S650 or

S653

# ProPhosSI MS/MS report

Mass: 824.705949 Charge: 3+



## Cav3.2 human

(25) 636 WAGGPPGTGGHGPL<sub>5</sub>LN<sub>5</sub>PDPYEK 659 2470.095 (0.9988) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
15 or 18	(650 or 653)	Phospho (ST)	y4, y6 exclude phosphorylation at position 22; y12[2+], y16, y16[2+] exclude phosphorylation at position 8

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	4 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	6/6	NOTE: G-P is a low abundance fragmentation. PASS: y20-98> y19-98  PASS: b5< b4  NOTE: P-P is a low abundance fragmentation. No proline ions at y19-98 No proline ions at b6  NOTE: G-P is a low abundance fragmentation. No proline ions at y12-98 No proline ions at b13  NOTE: S-P is a low abundance fragmentation. PASS: y6> y5  PASS: b19-98< b18-98  PASS: y4> y3  PASS: b21-98< b20-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 1107.714: intensity: 9054.44) assigned 1 times ion 2 (mass: 1050.634: intensity: 4250.15) assigned 1 times ion 3 (mass: 1108.550: intensity: 3624.89) assigned 0 times ion 4 (mass: 812.990: intensity: 2231.96) assigned 1 times ion 5 (mass: 968.646: intensity: 2211.32) assigned 1 times ion 6 (mass: 536.276: intensity: 1775.64) assigned 1 times ion 7 (mass: 1051.625: intensity: 1623.28) assigned 0 times ion 8 (mass: 1058.773: intensity: 1391.55) assigned 1 times ion 9 (mass: 1079.182: intensity: 1278.59) assigned 1 times ion 10 (mass: 1001.712: intensity: 1166.19) assigned 2 times

## Ion Table

28 ions assigned of 65 ions above threshold (43%).

N-terminal ions

AA	N-ion	b	b*	b-98	bo
W	1	187.087	170.060	-	169.076
A	2	258.124 *258.162 (2)	241.097	-	240.113
G	3	315.145	298.119	-	297.135
G	4	372.167 372.296 (3)	355.140 355.295 (2)	-	354.156
P	5	469.219	452.193	-	451.209
P	6	566.272	549.246	-	548.262
G	7	623.294	606.267	-	605.283
T	8	724.341	707.315	-	706.331
G	9	781.363	764.336	-	763.352
G	10	838.384	821.358	-	820.374
H	11	975.443	958.417	-	957.433
G	12	1032.465	1015.438	-	1014.454
P	13	1129.517	1112.491	-	1111.507
L	14	1242.602	1225.575	-	1224.591
S	15	1329.634	1312.607	-	1311.623
L	16	1442.718	1425.691 1425.264 (2)	-	1424.707
N	17	1556.761	1539.734	-	1538.750
s	18	1723.759	1706.732	1625.773 812.990 [2+] (24)	1705.748
P	19	1820.812	1803.785	1722.826	1802.801
D	20	1935.839 968.646 [2+] (24)	1918.812 1918.587 (6) *959.797 [2+] (6)	1837.853 *919.820 [2+] (4)	1917.828 *959.797 [2+] (6)
P	21	2032.891	2015.865	1934.906	2014.881
Y	22	2195.955	2178.928	2097.969	2177.944
E	23	2324.997 1163.425 [2+] (2) 1162.780 [2+] (2)	2307.971 *1154.087 [2+] (5)	2227.011	2306.987 *1154.087 [2+] (5)
K	24	-	-	-	-

C-terminal ions

AA	C-ion	y	y*	y-98	yo
W	24	-	-	-	-
A	23	2285.024 1143.149 [2+] (12)	2267.997	2187.038	2267.013
G	22	2213.986 1107.714 [2+] (100)	2196.960	2116.001 1058.773 [2+] (15)	2195.976
G	21	2156.965 1079.182 [2+] (14)	2139.938	2058.979	2138.954
P	20	2099.943 1050.634 [2+] (46)	2082.917	2001.958 *1001.712 [2+] (12) *2002.417 (12)	2081.933 2081.996 (7)
P	19	2002.891 *1001.712 [2+] (12) *2002.417 (12)	1985.864	1904.905	1984.880
G	18	1905.838 1905.582 (3)	1888.811	1807.852	1887.827

T	17	1848.816	1831.790	1750.831	1830.806
G	16	1747.769 1748.256 (2) 874.632 [2+] (2)	1730.742	1649.783	1729.758
G	15	1690.747	1673.721	1592.761	1672.737
H	14	1633.726	1616.699	1535.740	1615.715
G	13	1496.667	1479.640	1398.681	1478.656
P	12	1439.645 720.144 [2+] (3)	1422.619	1341.660	1421.635
L	11	1342.593	1325.566	1244.607	1324.582
S	10	1229.509	1212.482	1131.523	1211.498
L	9	1142.477	1125.450	1044.491	1124.466
N	8	1029.393	1012.366	931.407	1011.382
s	7	915.350	898.323	817.364	897.339
P	6	748.351 748.287 (8)	731.325	-	730.341
D	5	651.299	634.272	-	633.288
P	4	536.272 536.276 (19)	519.245	-	518.261
Y	3	439.219	422.192	-	421.208
E	2	276.155	259.129	-	258.145 *258.162 (2)
K	1	147.113	130.086	-	129.102

### Ion distribution

Threshold	Ion count	Matches	% matched
0	120	51	42
0.5	120	51	42
1	97	39	40
2	65	28	43
3	46	21	45
4	35	17	48
5	32	16	50
10	16	11	68

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
258.162	244.45 <sub>,</sub>	2.69	b2 (0.03) : y2o (0.01)
355.295	260.84 <sub>,</sub>	2.88	b4* (0.15)
372.296	324.09 <sub>,</sub>	3.57	b4 (0.12)
390.290	100.60 <sub>,</sub>	1.11	
508.287	96.58 <sub>,</sub>	1.06	b12*[2+] (0.06)
536.276	1775.64 <sub>,</sub>	19.61	y4 (0.00)
595.874	105.25 <sub>,</sub>	1.16	
599.520	125.90 <sub>,</sub>	1.39	a14*[2+] (0.22)
613.162	118.92 <sub>,</sub>	1.31	b14o[2+] (0.36) : b14*[2+] (-0.12)

615.411	149.64 <sub>3</sub>	1.65	y10[2+] (0.15)
620.509	150.15 <sub>3</sub>	1.65	
668.191	248.99 <sub>3</sub>	2.74	
700.827	750.89 <sub>3</sub>	8.29	
714.075	276.36 <sub>3</sub>	3.05	
718.341	337.66 <sub>3</sub>	3.72	
719.466	230.97 <sub>3</sub>	2.55	
720.144	330.97 <sub>3</sub>	3.65	y12[2+] (-0.18)
748.287	800.47 <sub>3</sub>	8.84	y6 (-0.06)
752.826	1088.71 <sub>3</sub>	12.02	
807.483	528.54 <sub>3</sub>	5.83	
812.990	2231.96 <sub>3</sub>	24.65	b18-98[2+] (-0.40)
814.014	558.27 <sub>3</sub>	6.16	
815.294	589.84 <sub>3</sub>	6.51	
874.632	258.06 <sub>3</sub>	2.85	y16[2+] (0.24)
876.806	228.63 <sub>3</sub>	2.52	
879.870	239.70 <sub>3</sub>	2.64	
911.538	257.30 <sub>3</sub>	2.84	
919.820	362.47 <sub>3</sub>	4.00	c19[2+] (0.39) : b20-98[2+] (0.38)
920.668	226.70 <sub>3</sub>	2.50	
959.797	628.94 <sub>3</sub>	6.94	b20o[2+] (0.37) : b20*[2+] (-0.11)
960.582	429.60 <sub>3</sub>	4.74	
968.646	2211.32 <sub>3</sub>	24.42	b20[2+] (0.22)
969.540	468.52 <sub>3</sub>	5.17	
1001.712	1166.19 <sub>3</sub>	12.87	y20-98[2+] (0.22) : y19[2+] (-0.23)
1002.630	1133.38 <sub>3</sub>	12.51	a21[2+] (-0.32)
1050.634	4250.15 <sub>3</sub>	46.93	y20[2+] (0.15)
1051.625	1623.28 <sub>3</sub>	17.92	
1058.773	1391.55 <sub>3</sub>	15.36	y22-98[2+] (0.26)
1079.182	1278.59 <sub>3</sub>	14.12	y21[2+] (0.19)
1107.714	9054.44 <sub>3</sub>	100	y22[2+] (0.21)
1108.550	3624.89 <sub>3</sub>	40.03	
1143.149	1157.60 <sub>3</sub>	12.78	y23[2+] (0.13)
1144.015	622.73 <sub>3</sub>	6.87	
1154.087	454.67 <sub>3</sub>	5.02	b23o[2+] (0.08) : b23*[2+] (-0.40)
1162.780	234.13 <sub>3</sub>	2.58	b23[2+] (-0.22)
1163.425	208.43 <sub>3</sub>	2.30	b23[2+] (0.42)
1229.534	166.92 <sub>3</sub>	1.84	y10 (0.02)
1242.384	103.69 <sub>3</sub>	1.14	b14 (-0.21)
1335.374	248.99 <sub>3</sub>	2.74	
1380.336	145.07 <sub>3</sub>	1.60	

1389.905	212.82 <sub>3</sub>	2.35	
1398.850	169.53 <sub>3</sub>	1.87	y13-98 (0.16)
1402.100	191.71 <sub>3</sub>	2.11	
1425.264	197.39 <sub>3</sub>	2.18	b16* (-0.42)
1435.674	337.66 <sub>3</sub>	3.72	
1477.830	496.34 <sub>3</sub>	5.48	
1495.567	800.47 <sub>3</sub>	8.84	
1504.645	1088.71 <sub>3</sub>	12.02	
1505.985	274.37 <sub>3</sub>	3.03	
1515.675	286.97 <sub>3</sub>	3.16	
1524.203	377.61 <sub>3</sub>	4.17	x13 (-0.45)
1563.430	129.17 <sub>3</sub>	1.42	
1612.314	514.23 <sub>3</sub>	5.67	
1619.799	143.37 <sub>3</sub>	1.58	
1627.020	558.27 <sub>3</sub>	6.16	
1631.211	285.74 <sub>3</sub>	3.15	
1678.718	141.37 <sub>3</sub>	1.56	a18* (-0.01)
1728.781	102.80 <sub>3</sub>	1.13	
1741.568	179.54 <sub>3</sub>	1.98	
1748.256	258.06 <sub>3</sub>	2.85	y16 (0.48)
1752.605	228.63 <sub>3</sub>	2.52	
1758.733	239.70 <sub>3</sub>	2.64	
1760.280	158.73 <sub>3</sub>	1.75	
1803.983	134.49 <sub>3</sub>	1.48	b19* (0.19)
1838.633	362.47 <sub>3</sub>	4.00	
1847.802	120.24 <sub>3</sub>	1.32	
1849.875	127.21 <sub>3</sub>	1.40	
1856.544	183.42 <sub>3</sub>	2.02	
1905.582	309.69 <sub>3</sub>	3.42	y18 (-0.25)
1918.587	628.94 <sub>3</sub>	6.94	b20* (-0.22)
1920.158	429.60 <sub>3</sub>	4.74	
1972.107	129.58 <sub>3</sub>	1.43	
1983.694	172.49 <sub>3</sub>	1.90	
1985.863	122.14 <sub>3</sub>	1.34	y19* (-0.00) : z19 (-0.00)
2002.417	1166.19 <sub>3</sub>	12.87	y20-98 (0.45) : y19 (-0.47)
2004.253	1133.38 <sub>3</sub>	12.51	
2054.453	142.38 <sub>3</sub>	1.57	
2063.776	173.68 <sub>3</sub>	1.91	
2068.513	170.97 <sub>3</sub>	1.88	
2081.996	643.76 <sub>3</sub>	7.10	y20o (0.06)
2118.182	543.34 <sub>3</sub>	6.00	
2135.845	139.62 <sub>3</sub>	1.54	
2141.527	150.98 <sub>3</sub>	1.66	

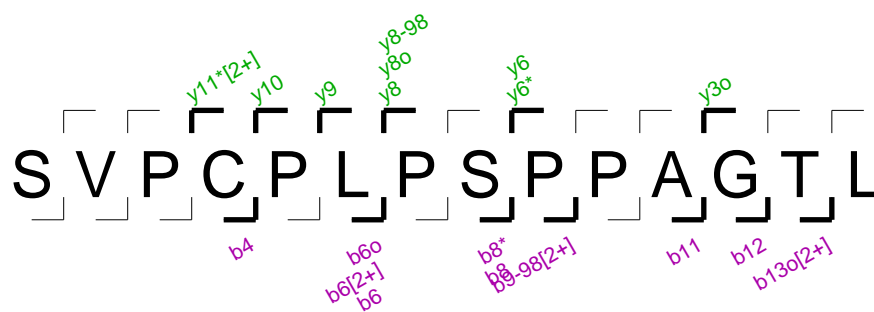
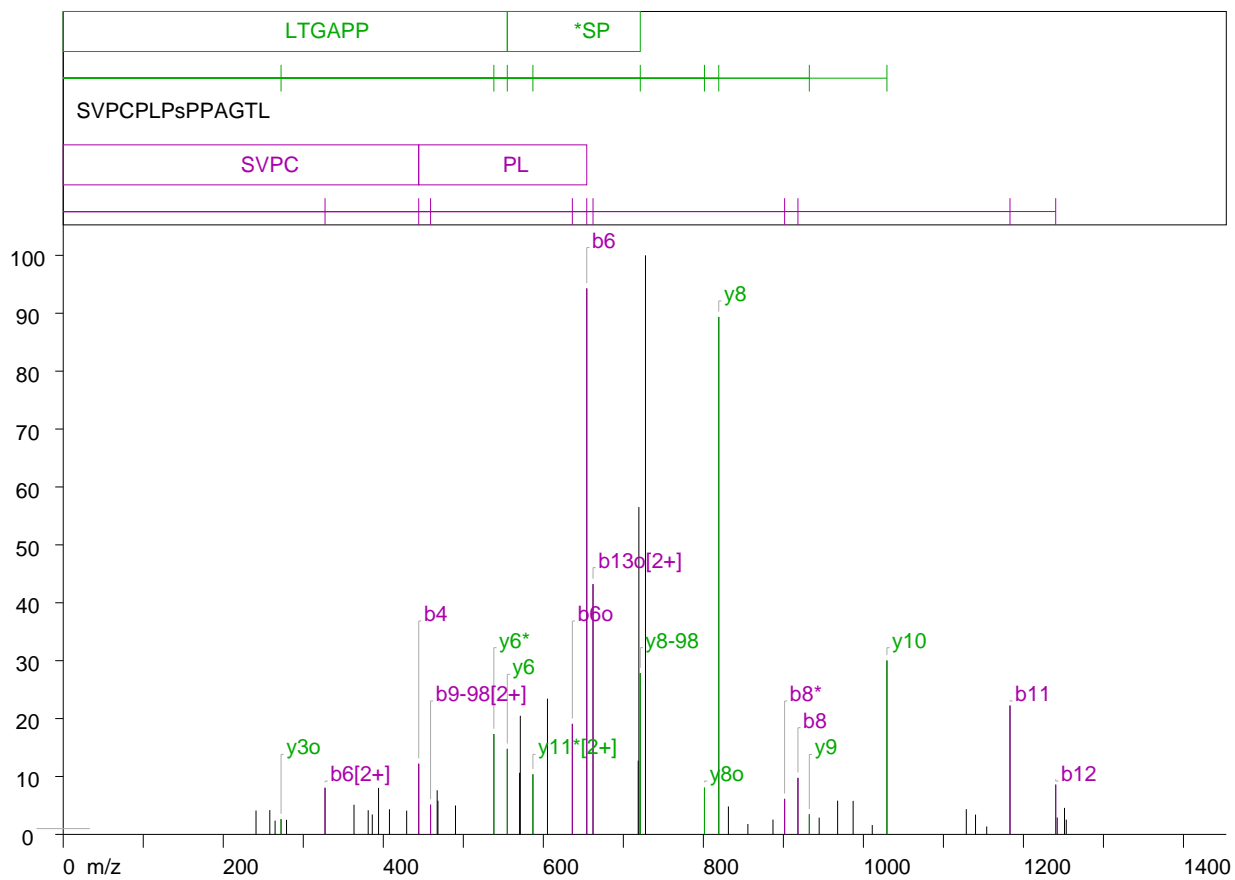
2179.963	136.36,	1.50	
2204.460	113.87,	1.25	
2211.576	99.87,	1.10	
2227.278	180.09	1.98	b23-98 (0.26)



S687

# ProPhosSI MS/MS report

Mass: 736.846865 Charge: 2+



## Cav3.2 human

(20) 680 SVPCPLPsPPAGTL 693 1471.678 (-0.0001) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
8	(687)	Phospho (ST)	b6=>b9-89; y6=>y8-98,y8

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	0/1	2 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b6 to b9-98,transition y6 to y8-98 support unique phosphorylation at position 8  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	5/6	No proline ions at y12-98 No proline ions at b3  No proline ions at y10-98 PASS: b5< b4  PASS: y8-98> y7-98  PASS: b7< b6  NOTE: S-P is a low abundance fragmentation. PASS: y6> y5  FAIL: b9-98> b8-98 NOTE: P-P is a low abundance fragmentation. No proline ions at y5 PASS: b10-98< b9-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	6/6	ion 1 (mass: 727.661: intensity: 276.24) assigned 0 times ion 2 (mass: 654.262: intensity: 260.45) assigned 1 times ion 3 (mass: 819.233: intensity: 246.86) assigned 1 times ion 4 (mass: 719.421: intensity: 156.14) assigned 0 times ion 5 (mass: 662.101: intensity: 119.40) assigned 1 times ion 6 (mass: 1029.410: intensity: 82.97) assigned 1 times ion 7 (mass: 721.160: intensity: 76.94) assigned 1 times ion 8 (mass: 605.171: intensity: 64.77) assigned 0 times ion 9 (mass: 1183.207: intensity: 61.46) assigned 1 times ion 10 (mass: 571.255: intensity: 56.59) assigned 0 times

## Ion Table

21 ions assigned of 48 ions above threshold (43%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
S	1	88.039	71.013	-	70.029
V	2	187.108	170.081	-	169.097
P	3	284.161	267.134	-	266.150
C	4	444.191 444.275 (12)	427.165	-	426.181
P	5	541.244	524.217	-	523.233
L	6	654.328 327.199 [2+] (8) 654.262 (94)	637.301	-	636.317 636.269 (19)
P	7	751.381	734.354	-	733.370
s	8	918.379 918.220 (9)	901.353 901.560 (6)	820.393	900.369
P	9	1015.432	998.405	917.446 459.057 [2+] (5)	997.421
P	10	1112.485	1095.458	1014.499	1094.474
A	11	1183.522 1183.207 (22)	1166.495	1085.536	1165.511
G	12	1240.543 1240.342 (8)	1223.517	1142.557	1222.533
T	13	1341.591	1324.564	1243.605	1323.580 662.101 [2+] (43)
L	14	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
S	14	-	-	-	-
V	13	1385.654	1368.627	1287.668	1367.643
P	12	1286.585	1269.559	1188.599	1268.575
C	11	1189.532	1172.506 *586.970 [2+] (10)	1091.546	1171.522
P	10	1029.502 1029.410 (30)	1012.475	931.516	1011.491
L	9	932.449 932.436 (3)	915.422	834.463	914.438
P	8	819.365 819.233 (89)	802.338	721.379 721.160 (27)	801.354 801.391 (8)
s	7	722.312	705.286	624.326	704.302
P	6	555.314 554.971 (14)	538.287 *538.163 (17)	-	537.303
P	5	458.261	441.234	-	440.250
A	4	361.208	344.182	-	343.198
G	3	290.171	273.145	-	272.161 272.229 (2)
T	2	233.150	216.123	-	215.139
L	1	132.102	115.075	-	114.091

### Ion distribution

Threshold	Ion count	Matches	% matched
0	51	22	43
0.5	51	22	43
1	51	22	43
2	48	21	43
3	41	20	48
4	38	19	50
5	29	19	65
10	17	11	64

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
240.936	11.39 <sub>,</sub>	4.12	
258.158	11.58 <sub>,</sub>	4.19	
264.766	6.56 <sub>,</sub>	2.37	
272.229	7.29 <sub>,</sub>	2.63	y3o (0.06)
279.062	6.95 <sub>,</sub>	2.51	
327.199	22.26 <sub>,</sub>	8.05	b6[2+] (-0.46)
363.406	14.14 <sub>,</sub>	5.11	
381.135	11.52 <sub>,</sub>	4.17	
386.251	9.49 <sub>,</sub>	3.43	
394.085	22.21 <sub>,</sub>	8.04	
407.704	11.98 <sub>,</sub>	4.33	
429.200	11.34 <sub>,</sub>	4.10	
444.275	33.73 <sub>,</sub>	12.21	b4 (0.08)
459.057	14.17 <sub>,</sub>	5.12	b9-98[2+] (-0.17)
467.325	21.07 <sub>,</sub>	7.62	
468.296	16.05 <sub>,</sub>	5.81	c8[2+] (0.08)
490.224	13.78 <sub>,</sub>	4.98	
538.163	47.86 <sub>,</sub>	17.32	z6 (-0.12) : y6* (-0.12)
554.971	40.82 <sub>,</sub>	14.77	y6 (-0.34)
570.344	29.39 <sub>,</sub>	10.63	
571.255	56.59 <sub>,</sub>	20.48	
586.970	28.67 <sub>,</sub>	10.37	y11*[2+] (0.21) : z11[2+] (0.21)
605.171	64.77 <sub>,</sub>	23.44	
636.269	52.74 <sub>,</sub>	19.09	b6o (-0.04)
654.262	260.45 <sub>,</sub>	94.28	b6 (-0.06)
662.101	119.40 <sub>,</sub>	43.22	b13o[2+] (-0.19)
718.568	35.19 <sub>,</sub>	12.73	
719.421	156.14 <sub>,</sub>	56.52	
721.160	76.94 <sub>,</sub>	27.85	y8-98 (-0.21)
727.661	276.24 <sub>,</sub>	100	

801.391	22.30 <sub>3</sub>	8.07	y8o (0.03)
819.233	246.86 <sub>3</sub>	89.36	y8 (-0.13)
831.324	13.33 <sub>3</sub>	4.82	
855.655	4.97 <sub>3</sub>	1.79	
886.997	7.07 <sub>3</sub>	2.55	
901.560	16.95 <sub>3</sub>	6.13	b8* (0.20)
918.220	26.97 <sub>3</sub>	9.76	b8 (-0.15)
932.436	9.57 <sub>3</sub>	3.46	y9 (-0.01)
944.743	7.99 <sub>3</sub>	2.89	
967.824	16.08 <sub>3</sub>	5.82	
987.183	15.99 <sub>3</sub>	5.78	a9 (-0.25)
1011.072	4.46 <sub>3</sub>	1.61	y10o (-0.41)
1029.410	82.97 <sub>3</sub>	30.03	y10 (-0.09)
1128.598	12.04 <sub>3</sub>	4.35	
1140.137	9.46 <sub>3</sub>	3.42	
1154.104	3.77 <sub>3</sub>	1.36	
1183.207	61.46 <sub>3</sub>	22.24	b11 (-0.31)
1240.342	23.75 <sub>3</sub>	8.59	b12 (-0.20)
1242.230	8.08 <sub>3</sub>	2.92	
1251.336	12.65 <sub>3</sub>	4.57	
1253.560	7.05	2.55	

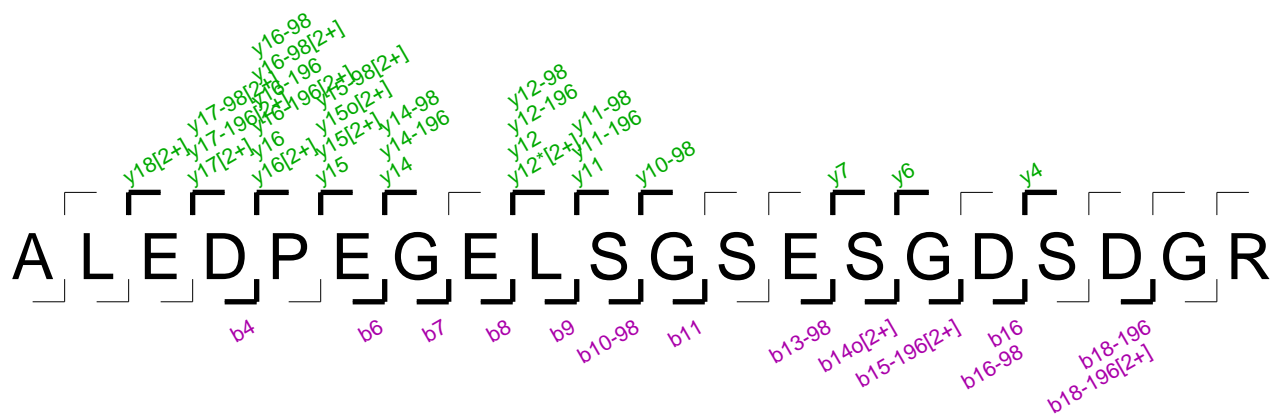
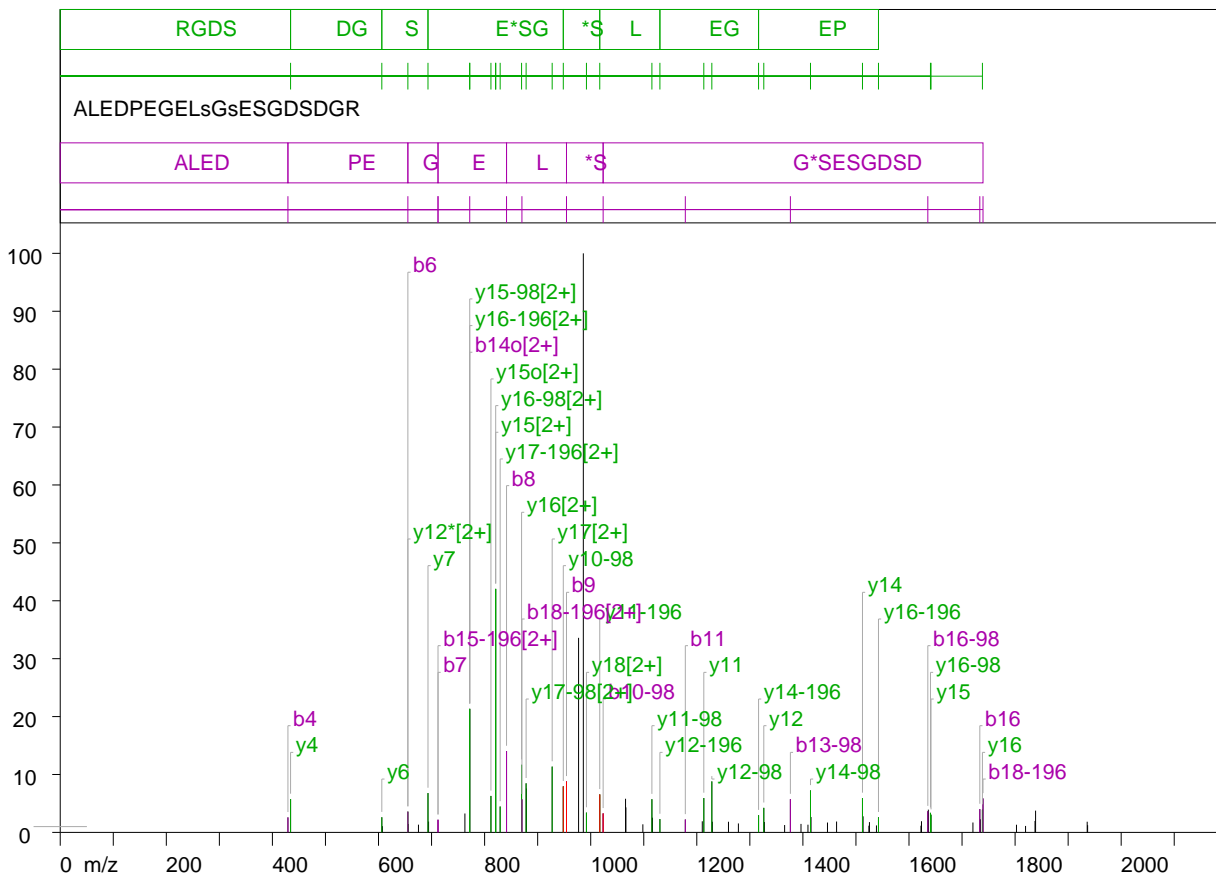
S715 and

S717

(diP)

# ProPhosSI MS/MS report

Mass: 1083.890985 Charge: 2+





## Cav3.2 human

(69) 706 ALEDPEGELsGsESGSDSDGR 725 2165.767 (-0.0012) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
10	(715)	Phospho (ST)	b9 => b10-98 : y10-98 => y11-196
12	(717)	Phospho (ST)	y7 to y10-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 2 phosphate ions were not found
Three -98 Ions present	1/1	9 des-phospho fragment ions were found.
Unique -98 transitions present	2/2	transition b9 to b10-98, transition y10-98 to y11-196 support unique phosphorylation at position 10  transition y7 to y10-98 support unique phosphorylation at position 12  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b6 to b9.
Five of six sequential ions present	1/1	Five of Six ions found between b4 and b9 Five of Six ions found between b5 and b10 Five of Six ions found between b6 and b11
Proline directed fragmentation pattern	2/2	PASS: y16-196> y15-196  PASS: b5< b4 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	9/6	ion 1 (mass: 986.107: intensity: 5718.29) assigned 0 times ion 2 (mass: 820.889: intensity: 2404.73) assigned 2 times ion 3 (mass: 977.131: intensity: 1921.44) assigned 1 times ion 4 (mass: 771.970: intensity: 1220.08) assigned 3 times ion 5 (mass: 841.342: intensity: 802.68) assigned 1 times ion 6 (mass: 869.695: intensity: 667.60) assigned 1 times ion 7 (mass: 927.349: intensity: 649.70) assigned 1 times ion 8 (mass: 954.368: intensity: 503.56) assigned 2 times ion 9 (mass: 1228.353: intensity: 503.54) assigned 1 times ion 10 (mass: 878.247: intensity: 484.62) assigned 1 times

## Ion Table

38 ions assigned of 49 ions above threshold (77%).

### N-terminal ions

AA	N-ion	b	b*	b-196	b-98	bo
A	1	72.044	55.018	-	-	54.034
L	2	185.129	168.102	-	-	167.118
E	3	314.171	297.145	-	-	296.161
D	4	429.198 *429.218 (2)	412.172	-	-	411.188
P	5	526.251	509.224	-	-	508.240
E	6	655.293 *655.354 (3)	638.267	-	-	637.283
G	7	712.315 *712.153 (2)	695.288	-	-	694.304
E	8	841.358 841.342 (14)	824.331	-	-	823.347
L	9	954.442 *954.368 (8)	937.415	-	-	936.431
s	10	1121.440	1104.413	-	1023.454 1023.457 (3)	1103.429
G	11	1178.461 1178.352 (2)	1161.435	-	1080.475	1160.451
s	12	1345.460	1328.433	1149.488	1247.474	1327.449
E	13	1474.502	1457.476	1278.531	1376.516 1376.418 (5)	1456.492
S	14	1561.534	1544.508	1365.563	1463.548	1543.524 *771.970 [2+] (21)
G	15	1618.556	1601.529	1422.584 *712.153 [2+] (2)	1520.570	1600.545
D	16	1733.583 1733.520 (4)	1716.556	1537.611	1635.597 *1635.517 (3)	1715.572
S	17	1820.615	1803.588	1624.643	1722.629	1802.604
D	18	1935.642	1918.615	1739.670 1739.512 (5) 870.349 [2+] (5)	1837.656	1917.631
G	19	1992.663	1975.637	1796.691	1894.677	1974.653
R	20	-	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-196	y-98	yo
A	20	-	-	-	-	-
L	19	2095.738	2078.711	1899.766	1997.752	2077.727
E	18	1982.654 991.954 [2+] (3)	1965.627	1786.682	1884.668	1964.643
D	17	1853.611 927.349 [2+] (11)	1836.585	1657.639 829.302 [2+] (4)	1755.625 878.247 [2+] (8)	1835.601
P	16	1738.584 869.695 [2+] (11) 1738.407 (3)	1721.558	1542.612 *771.970 [2+] (21) 1542.499 (2)	1640.598 *820.889 [2+] (42) 1640.503 (3)	1720.574
E	15	1641.531 1641.550 (3) *820.889 [2+] (42)	1624.505	1445.560	1543.545 *771.970 [2+] (21)	1623.521 811.911 [2+] (6)
G	14	1512.489 1512.292 (5)	1495.462	1316.517 1316.443 (2)	1414.503 1414.327 (7)	1494.478

E	13	1455.467	1438.441	1259.496	1357.481	1437.457
L	12	1326.425 1326.273 (4)	1309.398 *655.354 [2+] (3)	1130.453 1130.418 (2)	1228.439 1228.353 (8)	1308.414
s	11	1213.341 1213.199 (5)	1196.314	1017.369 *1017.065 (6)	1115.355 1115.376 (5)	1195.330
G	10	1046.342	1029.316	-	948.356 948.351 (7)	1028.332
s	9	989.321	972.294	-	891.335	971.310
E	8	822.323	805.296	-	-	804.312
S	7	693.280 693.269 (6)	676.253	-	-	675.269
G	6	606.248 606.239 (2)	589.221	-	-	588.237
D	5	549.226	532.200	-	-	531.216
S	4	434.199 434.209 (5)	417.173	-	-	416.189
D	3	347.167	330.141	-	-	329.157
G	2	232.140	215.114	-	-	214.130
R	1	175.119	158.092	-	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	94	62	65
0.5	86	58	67
1	75	52	69
2	49	38	77
3	38	31	81
4	28	24	85
5	24	21	87
10	7	6	85

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
429.218	148.26 <sub>s</sub>	2.59	b4 (0.01) : c8[2+] (-0.47)
434.209	329.49 <sub>s</sub>	5.76	y4 (0.00)
606.239	149.62 <sub>s</sub>	2.61	y6 (-0.00)
607.297	61.56 <sub>s</sub>	1.07	y11[2+] (0.12)
655.354	205.08 <sub>s</sub>	3.58	y12*[2+] (0.15) : z12[2+] (0.15) : b6 (0.06)
656.146	83.28 <sub>s</sub>	1.45	
675.321	76.36 <sub>s</sub>	1.33	y7o (0.05)
693.269	388.26 <sub>s</sub>	6.78	y7 (-0.01)
694.386	107.02 <sub>s</sub>	1.87	b7o (0.08)
712.153	124.78 <sub>s</sub>	2.18	b15-196[2+] (0.35) : b7 (-0.16)
762.869	186.68 <sub>s</sub>	3.26	
771.970	1220.08 <sub>s</sub>	21.33	y16-196[2+] (0.15) : b14o[2+] (-0.29) :

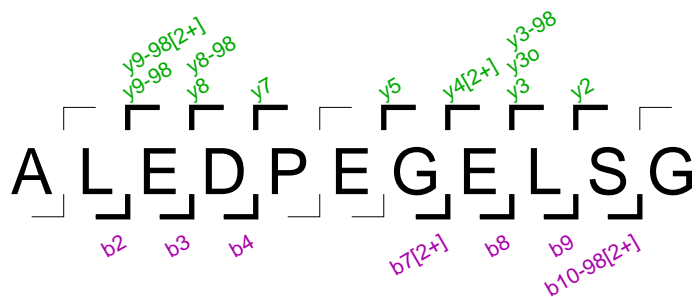
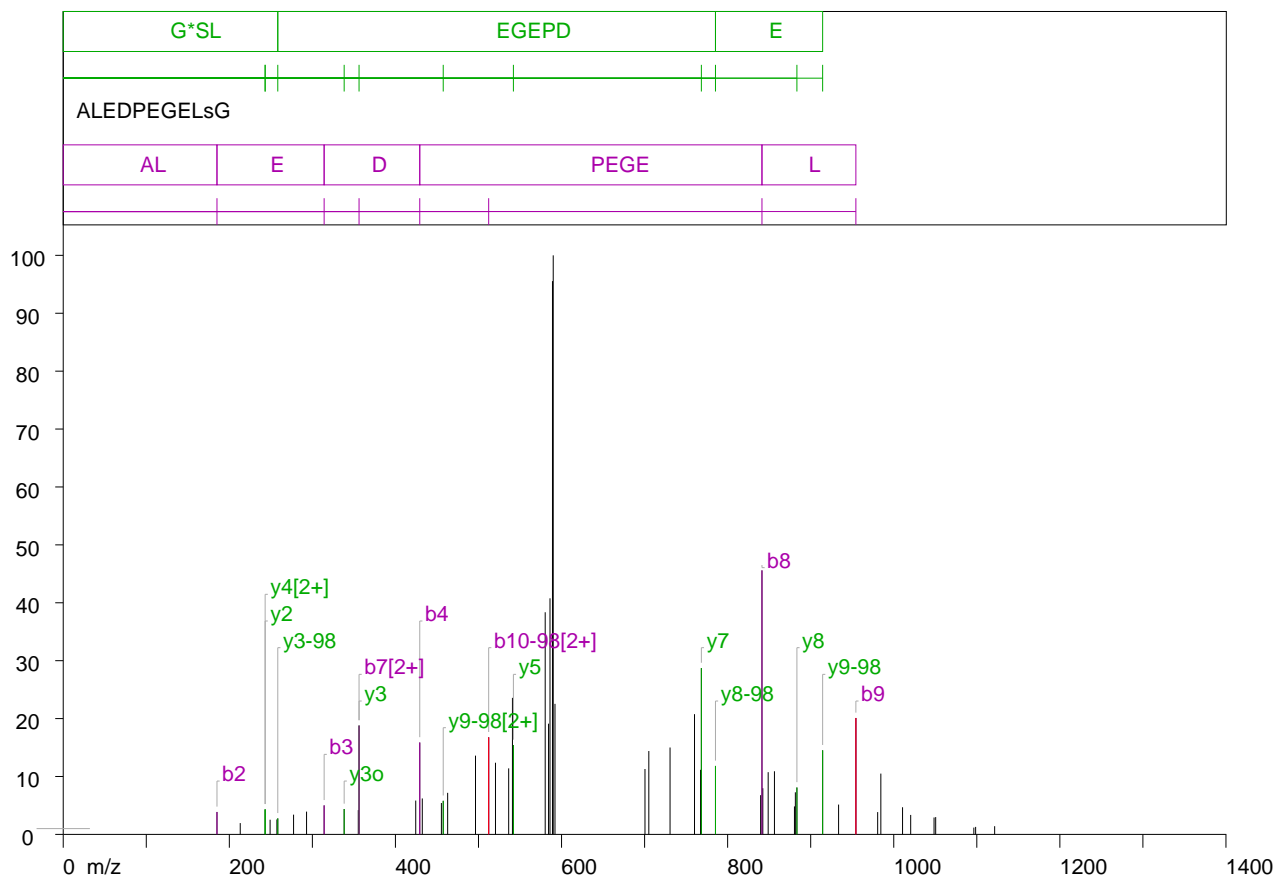
-	-	-	y15-98[2+] (-0.30)
811.911	360.10 <sub>3</sub>	6.29	y15o[2+] (-0.35)
820.889	2404.73 <sub>3</sub>	42.05	y16-98[2+] (0.08) : y15[2+] (-0.38)
829.302	255.44 <sub>3</sub>	4.46	y17-196[2+] (-0.02)
841.342	802.68 <sub>3</sub>	14.03	b8 (-0.01)
869.695	667.60 <sub>3</sub>	11.67	y16[2+] (-0.10)
870.349	326.83 <sub>3</sub>	5.71	b18-196[2+] (0.00)
878.247	484.62 <sub>3</sub>	8.47	y17-98[2+] (-0.06)
878.908	433.67 <sub>3</sub>	7.58	
927.349	649.70 <sub>3</sub>	11.36	y17[2+] (0.03)
948.351	455.15 <sub>3</sub>	7.95	y10-98 (-0.00)
954.368	503.56 <sub>3</sub>	8.80	a18[2+] (0.04) : b9 (-0.07)
977.131	1921.44 <sub>3</sub>	33.60	c18[2+] (0.29)
986.107	5718.29 <sub>3</sub>	100	
991.954	195.30 <sub>3</sub>	3.41	y18[2+] (0.12)
1017.065	375.15 <sub>3</sub>	6.56	x9 (-0.25) : y11-196 (-0.30)
1023.457	187.58 <sub>3</sub>	3.28	b10-98 (0.00)
1065.671	332.23 <sub>3</sub>	5.80	
1066.329	247.22 <sub>3</sub>	4.32	
1098.303	79.84 <sub>3</sub>	1.39	
1115.376	327.75 <sub>3</sub>	5.73	y11-98 (0.02)
1116.363	145.25 <sub>3</sub>	2.54	
1130.418	131.51 <sub>3</sub>	2.29	y12-196 (-0.03)
1178.352	127.77 <sub>3</sub>	2.23	b11 (-0.10)
1210.312	109.77 <sub>3</sub>	1.91	
1213.199	339.22 <sub>3</sub>	5.93	y11 (-0.14)
1228.353	503.54 <sub>3</sub>	8.80	y12-98 (-0.08)
1229.269	105.38 <sub>3</sub>	1.84	
1259.700	105.16 <sub>3</sub>	1.83	y13-196 (0.20)
1278.437	88.38 <sub>3</sub>	1.54	b13-196 (-0.09)
1316.443	169.55 <sub>3</sub>	2.96	y14-196 (-0.07)
1326.273	242.44 <sub>3</sub>	4.23	y12 (-0.15)
1327.368	102.47 <sub>3</sub>	1.79	b12o (-0.08)
1365.559	72.74 <sub>3</sub>	1.27	b14-196 (-0.00)
1376.418	328.29 <sub>3</sub>	5.74	b13-98 (-0.09)
1396.403	83.86 <sub>3</sub>	1.46	
1409.553	76.08 <sub>3</sub>	1.33	
1414.327	414.15 <sub>3</sub>	7.24	y14-98 (-0.17)
1415.340	151.64 <sub>3</sub>	2.65	
1446.355	97.36 <sub>3</sub>	1.70	a13 (-0.15)
1463.496	107.40 <sub>3</sub>	1.87	b14-98 (-0.05)
1512.292	339.59 <sub>3</sub>	5.93	y14 (-0.19)

1513.464	158.71 <sub>3</sub>	2.77	
1524.444	66.39 <sub>3</sub>	1.16	
1525.454	101.52 <sub>3</sub>	1.77	
1538.644	68.84 <sub>3</sub>	1.20	
1542.499	149.03 <sub>3</sub>	2.60	y16-196 (-0.11)
1622.602	66.07 <sub>3</sub>	1.15	
1623.550	110.28 <sub>3</sub>	1.92	y15o (0.02)
1635.517	209.15 <sub>3</sub>	3.65	c15 (-0.06) : b16-98 (-0.08)
1636.468	224.75 <sub>3</sub>	3.93	
1640.503	193.21 <sub>3</sub>	3.37	y16-98 (-0.09)
1641.550	174.73 <sub>3</sub>	3.05	y15 (0.01)
1720.518	97.79 <sub>3</sub>	1.71	y16o (-0.05)
1733.520	230.04 <sub>3</sub>	4.02	b16 (-0.06)
1734.456	129.81 <sub>3</sub>	2.27	
1738.407	224.59 <sub>3</sub>	3.92	y16 (-0.17)
1739.512	335.13 <sub>3</sub>	5.86	b18-196 (-0.15)
1802.617	75.69 <sub>3</sub>	1.32	b17o (0.01)
1819.742	63.79 <sub>3</sub>	1.11	
1837.554	113.19 <sub>3</sub>	1.97	c17 (-0.08) : b18-98 (-0.10)
1838.647	214.98 <sub>3</sub>	3.75	
1935.914	105.41 <sub>3</sub>	1.84	b18 (0.27)
1936.738	71.26 <sub>3</sub>	1.24	

**S715**

# ProPhosSI MS/MS report

Mass: 598.739197 Charge: 2+



## Cav3.2 human

(43) 706 ALEDPEGELsG 716 1195.464 Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
10	(715)	Phospho (ST)	b9 => b10-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	4 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b9 to b10-98 support unique phosphorylation at position 10  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b7 to b10-98.
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	1/1	No proline ions at y7-98 PASS: b5< b4 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	3/6	ion 1 (mass: 590.000: intensity: 2777.25) assigned 0 times ion 2 (mass: 589.094: intensity: 2653.66) assigned 0 times ion 3 (mass: 841.332: intensity: 1266.33) assigned 1 times ion 4 (mass: 586.107: intensity: 1132.37) assigned 0 times ion 5 (mass: 580.326: intensity: 1065.50) assigned 0 times ion 6 (mass: 768.356: intensity: 797.61) assigned 1 times ion 7 (mass: 540.885: intensity: 654.90) assigned 0 times ion 8 (mass: 592.118: intensity: 626.15) assigned 0 times ion 9 (mass: 760.089: intensity: 576.66) assigned 0 times ion 10 (mass: 954.411: intensity: 558.37) assigned 1 times

## Ion Table

19 ions assigned of 53 ions above threshold (35%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
A	1	72.044	55.018	-	54.034
L	2	185.129 185.119 (3)	168.102	-	167.118
E	3	314.171 *314.166 (5)	297.145	-	296.161



D	4	429.198 *429.290 (15)	412.172	-	411.188
P	5	526.251	509.224	-	508.240
E	6	655.293	638.267	-	637.283
G	7	712.315 *356.198 [2+] (18)	695.288	-	694.304
E	8	841.358 841.332 (45)	824.331	-	823.347
L	9	954.442 954.411 (20)	937.415	-	936.431
s	10	1121.440	1104.413	1023.454 512.254 [2+] (16)	1103.429
G	11	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
A	11	-	-	-	-
L	10	1125.435	1108.408	1027.449	1107.424
E	9	1012.351	995.324	914.365 914.380 (14) 457.555 [2+] (5)	994.340
D	8	883.308 883.377 (8)	866.282	785.322 785.358 (11)	865.298
P	7	768.281 768.356 (28)	751.255	670.295	750.271
E	6	671.228	654.202	573.243	653.218
G	5	542.186 542.053 (15)	525.159	444.200	524.175
E	4	485.164 *243.125 [2+] (4)	468.138	387.178	467.154
L	3	356.122 *356.198 (18)	339.095	258.136 258.337 (2)	338.111 338.263 (4)
s	2	243.038 *243.125 (4)	226.011	145.052	225.027
G	1	76.039	59.013	-	58.029

### Ion distribution

Threshold	Ion count	Matches	% matched
0	63	20	31
0.5	60	20	33
1	57	20	35
2	53	19	35
3	48	17	35
4	43	16	37
5	37	13	35
10	27	10	37

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
185.119	107.59	3.87	b2 (-0.01)

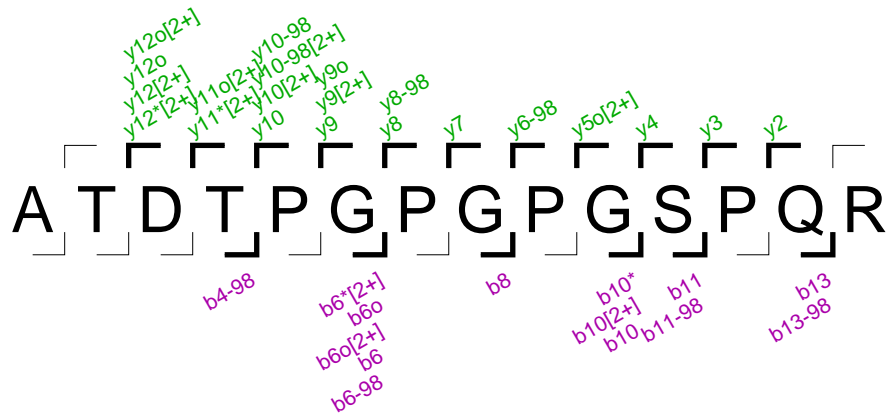
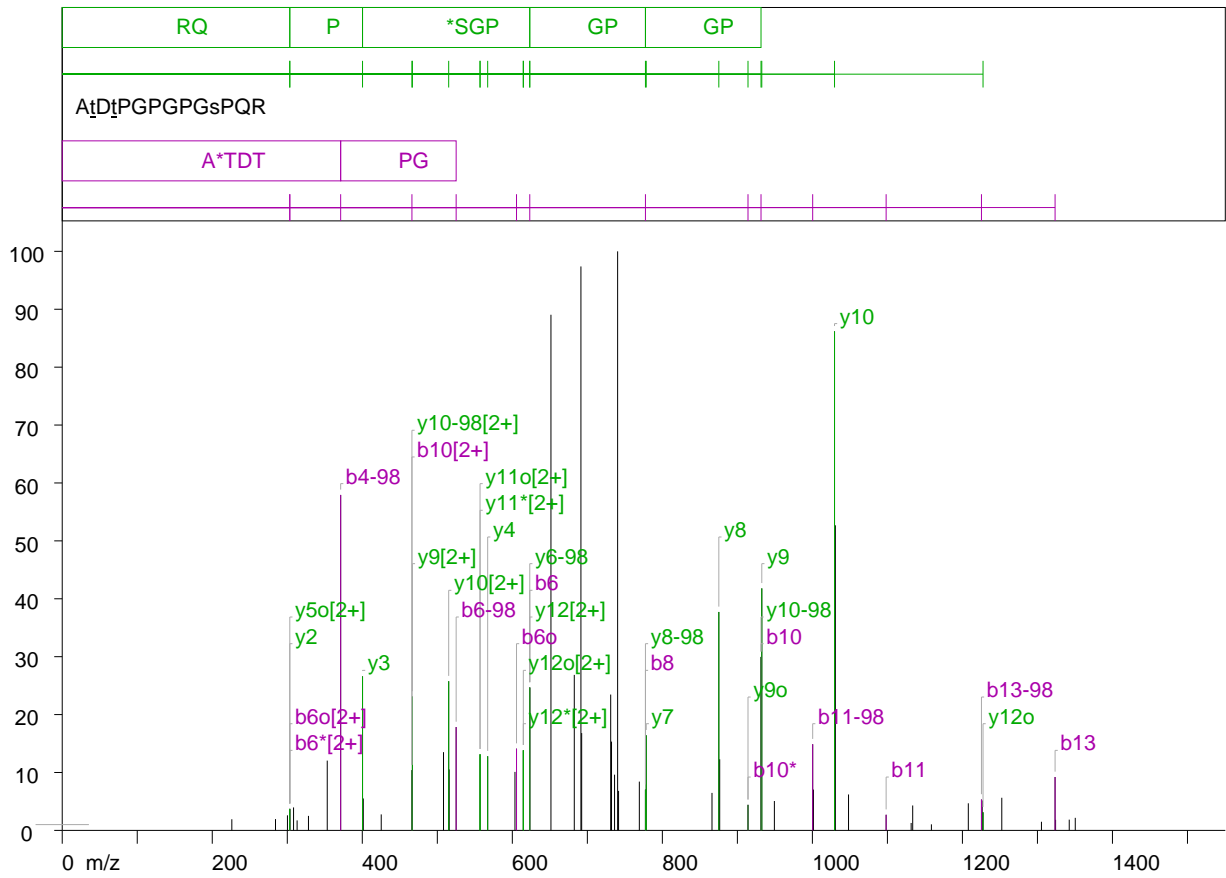
213.127	54.23 <sub>3</sub>	1.95	
243.125	120.00 <sub>3</sub>	4.32	y2 (0.08) : y4[2+] (0.03)
249.096	70.40 <sub>3</sub>	2.53	
257.260	71.80 <sub>3</sub>	2.58	x4[2+] (0.17)
258.337	76.80 <sub>3</sub>	2.76	y3-98 (0.20)
277.361	94.73 <sub>3</sub>	3.41	
293.000	109.29 <sub>3</sub>	3.93	
314.166	139.11 <sub>3</sub>	5.00	a6[2+] (0.01) : b3 (-0.00)
338.263	121.72 <sub>3</sub>	4.38	y3o (0.15)
355.258	116.50 <sub>3</sub>	4.19	
356.198	522.05 <sub>3</sub>	18.79	y3 (0.07) : b7[2+] (-0.46)
424.426	162.31 <sub>3</sub>	5.84	
429.290	440.71 <sub>3</sub>	15.86	b4 (0.09) : c8[2+] (-0.40)
432.340	172.42 <sub>3</sub>	6.20	
455.319	150.49 <sub>3</sub>	5.41	a9*[2+] (0.10)
457.555	161.09 <sub>3</sub>	5.80	y9-98[2+] (-0.13)
462.891	199.34 <sub>3</sub>	7.17	
496.412	377.76 <sub>3</sub>	13.60	
512.254	465.66 <sub>3</sub>	16.76	b10-98[2+] (0.02)
520.472	343.74 <sub>3</sub>	12.37	x9[2+] (-0.20)
536.340	316.70 <sub>3</sub>	11.40	
540.885	654.90 <sub>3</sub>	23.58	
542.053	428.60 <sub>3</sub>	15.43	y5 (-0.13)
580.326	1065.50 <sub>3</sub>	38.36	
584.363	531.01 <sub>3</sub>	19.11	
586.107	1132.37 <sub>3</sub>	40.77	
589.094	2653.66 <sub>3</sub>	95.54	
590.000	2777.25 <sub>3</sub>	100	
592.118	626.15 <sub>3</sub>	22.54	
700.459	313.64 <sub>3</sub>	11.29	
705.098	399.84 <sub>3</sub>	14.39	
730.636	416.78 <sub>3</sub>	15.00	
760.089	576.66 <sub>3</sub>	20.76	
767.386	309.68 <sub>3</sub>	11.15	
768.356	797.61 <sub>3</sub>	28.71	y7 (0.07)
785.358	328.36 <sub>3</sub>	11.82	y8-98 (0.03)
839.730	188.12 <sub>3</sub>	6.77	
841.332	1266.33 <sub>3</sub>	45.59	b8 (-0.02)
842.363	221.44 <sub>3</sub>	7.97	
848.808	298.41 <sub>3</sub>	10.74	
856.351	302.82 <sub>3</sub>	10.90	
880.442	134.25 <sub>3</sub>	4.83	
881.535	201.96 <sub>3</sub>	7.27	

883.377	224.93,	8.09	y8 (0.06)
914.380	403.34,	14.52	y9-98 (0.01)
933.601	143.05,	5.15	
954.411	558.37,	20.10	b9 (-0.03)
980.641	106.97,	3.85	
984.451	291.63,	10.50	
1010.597	130.17,	4.68	
1020.386	93.40,	3.36	
1048.534	81.03,	2.91	
1050.473	83.02,	2.98	
1096.439	32.68,	1.17	
1098.580	36.00,	1.29	
1121.489	39.36,	1.41	b10 (0.04)

T749 or  
T751 and  
S758  
(diP)

# ProPhosSI MS/MS report

Mass: 749.291151 Charge: 2+



## Cav3.2 human

(33) 748 A†D†PGPGPGsPQR 761 1496.569 (-0.0031) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
11	(758)	Phospho (ST)	b11-98 ,b4-98
2 or 4	(749) or (751)	Phospho (ST)	

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 2 phosphate ions were not found
Three -98 Ions present	1/1	5 des-phospho fragment ions were found.
Unique -98 transitions present	1/2	transition y3 to y6-98 support unique phosphorylation at position 11  No transitions found to support unique phosphorylation at position 2 or 4  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	6/6	PASS: y10-98> y9-98  PASS: b5-98< b4-98  NOTE: G-P is a low abundance fragmentation. PASS: y8-98> y7-98  PASS: b7-98< b6-98  NOTE: G-P is a low abundance fragmentation. PASS: y6-98> y5-98  No proline ions at b9-98  NOTE: S-P is a low abundance fragmentation. PASS: y3> y2 with ratio 7.15  No proline ions at b12-196 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 740.369: intensity: 258.13) assigned 0 times ion 2 (mass: 691.430: intensity: 251.40) assigned 0 times ion 3 (mass: 651.467: intensity: 229.87) assigned 0 times ion 4 (mass: 1029.495: intensity: 222.46) assigned 1 times ion 5 (mass: 371.177: intensity: 149.54) assigned 1 times ion 6 (mass: 1030.605: intensity: 136.01) assigned 0 times ion 7 (mass: 932.536: intensity: 107.89) assigned 1 times ion 8 (mass: 875.259: intensity: 97.38) assigned 1 times ion 9 (mass: 931.523: intensity: 77.33) assigned 2 times ion 10 (mass: 682.597: intensity: 69.32) assigned 0 times

## Ion Table

27 ions assigned of 54 ions above threshold (50%).

### N-terminal ions

AA	N-ion	b	b*	b-196	b-98	bo
A	1	72.044	55.018	-	-	54.034
t	2	253.058	236.032	-	155.073	235.048
D	3	368.085	351.059	-	270.099	350.075
T	4	469.133	452.107	-	371.147 371.177 (57)	451.122
P	5	566.186	549.159	-	468.200	548.175
G	6	623.207 *623.264 (24)	606.181 *303.365 [2+] (3)	-	525.221 525.116 (17)	605.197 605.581 (14) *303.365 [2+] (3)
P	7	720.260	703.234	-	622.274	702.250
G	8	777.282 *777.472 (7)	760.255	-	679.296	759.271
P	9	874.334	857.308	-	776.348	856.324
G	10	931.356 *466.176 [2+] (10) *931.523 (29)	914.329 *914.149 (4)	-	833.370	913.345
s	11	1098.354 1098.305 (2)	1081.328	902.382	1000.368 1000.383 (14)	1080.344
P	12	1195.407	1178.380	999.435	1097.421	1177.396
Q	13	1323.465 1323.520 (9)	1306.439	1127.494	1225.480 1225.367 (5)	1305.455
R	14	-	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-196	y-98	yo
A	14	-	-	-	-	-
t	13	1426.540	1409.513	1230.568	1328.554	1408.529
D	12	1245.526 *623.264 [2+] (24)	1228.499 *614.654 [2+] (13)	-	1147.540	1227.515 1227.479 (3) *614.654 [2+] (13)
T	11	1130.499	1113.473 *556.970 [2+] (13)	-	1032.513	1112.489 *556.970 [2+] (13)
P	10	1029.451 1029.495 (86) 515.154 [2+] (25)	1012.425	-	931.466 *466.176 [2+] (10) *931.523 (29)	1011.441
G	9	932.399 932.536 (41) 466.782 [2+] (23)	915.372	-	834.413	914.388 *914.149 (4)
P	8	875.377 875.259 (37)	858.351	-	777.391 *777.472 (7)	857.367
G	7	778.324 778.495 (16)	761.298	-	680.338	760.314
P	6	721.303	704.276	-	623.317 *623.264 (24)	703.292
G	5	624.250	607.224	-	526.264	606.240 *303.365 [2+] (3)
s	4	567.229 567.128 (12)	550.202	-	469.243	549.218
P	3	400.230 400.301 (26)	383.204	-	-	382.220

Q	2	303.178 *303.365 (3)	286.151	-	-	285.167
R	1	175.119	158.092	-	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	62	32	51
0.5	62	32	51
1	62	32	51
2	54	27	50
3	49	26	53
4	46	24	52
5	43	23	53
10	30	20	66

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
226.087	4.97 <sub>,</sub>	1.92	b4o[2+] (0.02) : b4*[2+] (-0.47)
284.291	5.04 <sub>,</sub>	1.95	y4[2+] (0.17)
300.227	6.72 <sub>,</sub>	2.60	
303.365	9.59 <sub>,</sub>	3.71	b6o[2+] (0.26) : y2 (0.18) : b6*[2+] (-0.22) : y5o[2+] (-0.25)
308.378	10.24 <sub>,</sub>	3.96	
313.100	4.46 <sub>,</sub>	1.72	y5[2+] (0.47)
328.256	6.47 <sub>,</sub>	2.50	
353.278	31.11 <sub>,</sub>	12.05	
371.177	149.54 <sub>,</sub>	57.93	b4-98 (0.02)
400.301	68.66 <sub>,</sub>	26.59	y3 (0.07)
401.319	14.23 <sub>,</sub>	5.51	
425.244	7.13 <sub>,</sub>	2.76	
466.176	26.84 <sub>,</sub>	10.39	b10[2+] (-0.00) : y10-98[2+] (-0.06)
466.782	59.67 <sub>,</sub>	23.11	y9[2+] (0.07)
508.262	34.88 <sub>,</sub>	13.51	
515.154	66.50 <sub>,</sub>	25.76	y10[2+] (-0.07)
515.768	27.19 <sub>,</sub>	10.53	
525.116	46.07 <sub>,</sub>	17.84	b6-98 (-0.10)
556.970	33.92 <sub>,</sub>	13.14	y11o[2+] (0.22) : y11*[2+] (-0.27) : z11[2+] (-0.27)
567.128	33.06 <sub>,</sub>	12.80	y4 (-0.10)
603.504	26.08 <sub>,</sub>	10.10	
605.581	36.42 <sub>,</sub>	14.10	b6o (0.38)
614.654	35.73 <sub>,</sub>	13.84	y12o[2+] (0.39) : y12*[2+] (-0.09) : z12[2+] (-0.09)

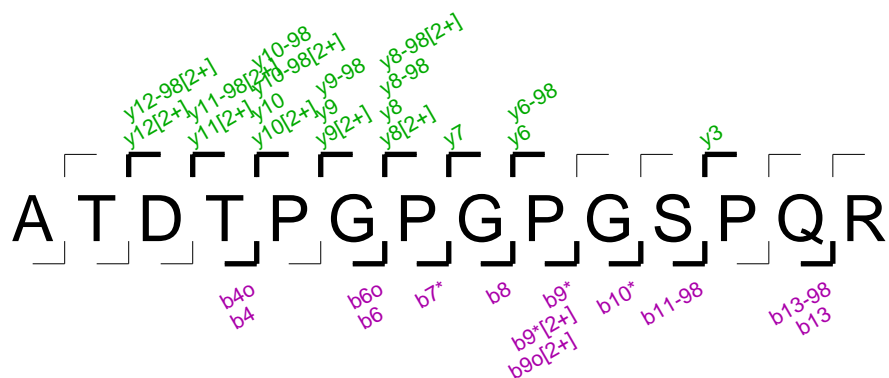
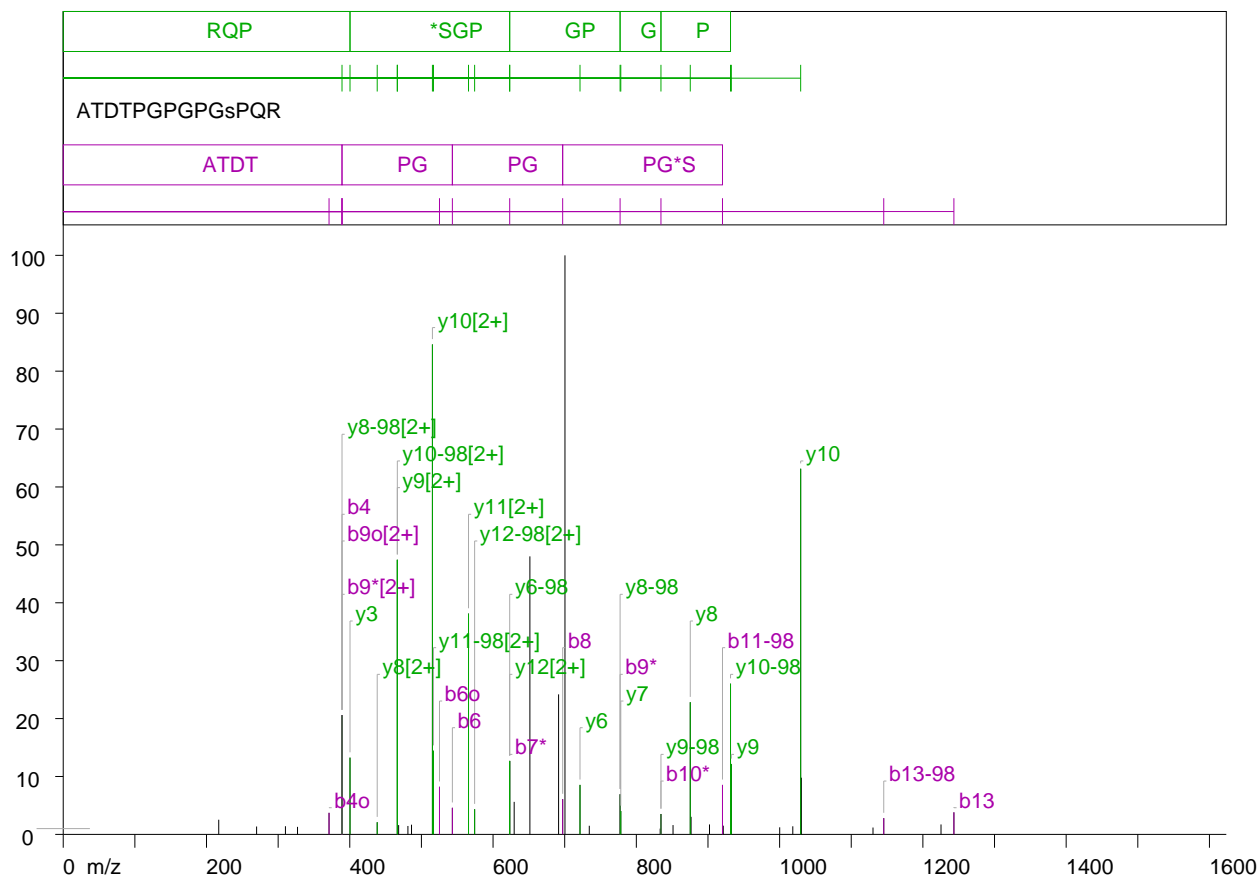


623.264	63.69 <sub>,</sub>	24.67	b6 (0.05) : y12[2+] (-0.00) : y6-98 (-0.05)
651.467	229.87 <sub>,</sub>	89.05	
682.597	69.32 <sub>,</sub>	26.85	
691.430	251.40 <sub>,</sub>	97.39	
692.428	43.39 <sub>,</sub>	16.80	a7 (0.16)
731.116	60.56 <sub>,</sub>	23.46	a8o (-0.16)
732.221	39.58 <sub>,</sub>	15.33	a8* (-0.03)
736.268	24.84 <sub>,</sub>	9.62	
740.369	258.13 <sub>,</sub>	100	
741.612	17.61 <sub>,</sub>	6.82	
769.308	21.75 <sub>,</sub>	8.42	
777.472	18.16 <sub>,</sub>	7.03	b8 (0.18) : y8-98 (0.08)
778.495	42.39 <sub>,</sub>	16.42	y7 (0.17)
866.155	16.72 <sub>,</sub>	6.47	
875.259	97.38 <sub>,</sub>	37.72	y8 (-0.11)
876.444	31.70 <sub>,</sub>	12.28	
914.149	11.39 <sub>,</sub>	4.41	b10* (-0.18) : y9o (-0.23)
931.523	77.33 <sub>,</sub>	29.95	b10 (0.16) : y10-98 (0.05)
932.536	107.89 <sub>,</sub>	41.79	y9 (0.13)
949.324	13.10 <sub>,</sub>	5.07	
1000.383	38.41 <sub>,</sub>	14.88	b11-98 (0.01)
1001.411	18.19 <sub>,</sub>	7.04	
1029.495	222.46 <sub>,</sub>	86.18	y10 (0.04)
1030.605	136.01 <sub>,</sub>	52.69	
1048.160	16.02 <sub>,</sub>	6.20	
1098.305	6.97 <sub>,</sub>	2.70	b11 (-0.04)
1131.642	3.31 <sub>,</sub>	1.28	
1133.730	11.11 <sub>,</sub>	4.30	
1158.632	2.70 <sub>,</sub>	1.04	x11 (0.13)
1207.868	12.08 <sub>,</sub>	4.67	
1225.367	13.76 <sub>,</sub>	5.33	b13-98 (-0.11)
1226.347	13.37 <sub>,</sub>	5.17	
1227.479	8.08 <sub>,</sub>	3.13	y12o (-0.03)
1252.471	14.55 <sub>,</sub>	5.63	
1305.353	3.85 <sub>,</sub>	1.49	b13o (-0.10)
1323.520	23.80 <sub>,</sub>	9.22	b13 (0.05)
1324.202	4.71 <sub>,</sub>	1.82	
1342.404	4.80 <sub>,</sub>	1.85	
1350.441	5.60	2.16	

**S758**

# ProPhosSI MS/MS report

Mass: 709.308974 Charge: 2+



## Cav3.2 human

(78) 748 ATDTPGPGPGsPQR 762 1416.603 (-0.0012) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
11	(758)	Phospho (ST)	b8=>b11-98; y3=> y6-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b8 to b11-98, transition y3 to y6-98 support unique phosphorylation at position 11  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y8-98 to y11-98.
Five of six sequential ions present	1/1	Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13
Proline directed fragmentation pattern	8/8	PASS: y10-98> y9-98 with ratio 13.4  PASS: b5< b4  NOTE: G-P is a low abundance fragmentation. PASS: y8-98> y7-98  PASS: b7< b6  NOTE: G-P is a low abundance fragmentation. PASS: y6-98> y5-98  PASS: b9< b8  NOTE: S-P is a low abundance fragmentation. PASS: y3> y2  PASS: b12-98< b11-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 700.363: intensity: 24205.44) assigned 0 times ion 2 (mass: 515.358: intensity: 20480.61) assigned 2 times ion 3 (mass: 1029.391: intensity: 15285.28) assigned 1 times ion 4 (mass: 651.420: intensity: 11622.16) assigned 1 times ion 5 (mass: 466.380: intensity: 11479.38) assigned 2 times ion 6 (mass: 565.725: intensity: 9228.90) assigned 1 times ion 7 (mass: 931.456: intensity: 6299.69) assigned 1 times ion 8 (mass: 691.475: intensity: 5853.85) assigned 0 times ion 9 (mass: 875.289: intensity: 5525.33) assigned 1 times ion 10 (mass: 389.153: intensity: 4985.10) assigned 4 times

## Ion Table

25 ions assigned of 31 ions above threshold (80%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
A	1	72.044	55.018	-	54.034
T	2	173.092	156.066	-	155.082
D	3	288.119	271.093	-	270.109
T	4	389.167 *389.153 (20)	372.140	-	371.156 371.065 (3)
P	5	486.220	469.193	-	468.209
G	6	543.241 543.223 (4)	526.214	-	525.230 525.239 (8)
P	7	640.294	623.267 *623.234 (12)	-	622.283
G	8	697.315 697.184 (6)	680.289	-	679.305
P	9	794.368	777.341 *777.333 (6) *389.153 [2+] (20)	-	776.357 *389.153 [2+] (20)
G	10	851.389	834.363 *834.378 (3)	-	833.379
s	11	1018.388	1001.361	920.402 920.264 (8)	1000.377
P	12	1115.441	1098.414	1017.455	1097.430
Q	13	1243.499 1243.292 (3)	1226.473	1145.513 1145.387 (2)	1225.489
R	14	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
A	14	-	-	-	-
T	13	1346.574	1329.547	1248.588	1328.563
D	12	1245.526 *623.234 [2+] (12)	1228.499	1147.540 574.273 [2+] (4)	1227.515
T	11	1130.499 565.725 [2+] (38)	1113.473	1032.513 516.816 [2+] (14)	1112.489
P	10	1029.451 *515.358 [2+] (84) 1029.391 (63)	1012.425	931.466 *466.380 [2+] (47) 931.456 (26)	1011.441
G	9	932.399 *466.380 [2+] (47) 932.614 (12)	915.372	834.413 *834.378 (3)	914.388
P	8	875.377 438.294 [2+] (2) 875.289 (22)	858.351	777.391 *777.333 (6) *389.153 [2+] (20)	857.367
G	7	778.324 778.288 (4)	761.298	680.338	760.314
P	6	721.303 721.353 (8)	704.276	623.317 *623.234 (12)	703.292
G	5	624.250	607.224	526.264	606.240
s	4	567.229	550.202	469.243	549.218
P	3	400.230 400.306 (13)	383.204	-	382.220
Q	2	303.178	286.151	-	285.167
R	1	175.119	158.092	-	157.108

## Ion distribution

Threshold	Ion count	Matches	% matched
0	70	44	62
0.5	55	41	74
1	45	35	77
2	31	25	80
3	28	23	82
4	24	20	83
5	21	17	80
10	14	12	85

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
217.075	613.38 <sub>3</sub>	2.53	
269.935	329.83 <sub>3</sub>	1.36	b3o (-0.17)
310.177	341.55 <sub>3</sub>	1.41	
327.046	314.78 <sub>3</sub>	1.30	x5[2+] (0.41) : a8*[2+] (0.39)
371.065	901.40 <sub>3</sub>	3.72	b4o (-0.09)
389.153	4985.10 <sub>3</sub>	20.59	b9o[2+] (0.47) : b4 (-0.01) : b9*[2+] (-0.02) : y8-98[2+] (-0.04)
400.306	3208.41 <sub>3</sub>	13.25	y3 (0.07)
438.294	509.02 <sub>3</sub>	2.10	y8[2+] (0.10)
466.380	11479.38 <sub>3</sub>	47.42	y10-98[2+] (0.14) : y9[2+] (-0.32)
468.202	389.40 <sub>3</sub>	1.60	b5o (-0.00)
481.138	352.09 <sub>3</sub>	1.45	x9[2+] (0.43)
486.164	405.77 <sub>3</sub>	1.67	b5 (-0.05)
515.358	20480.61 <sub>3</sub>	84.61	y10[2+] (0.12) : a6 (0.11)
516.816	3497.04 <sub>3</sub>	14.44	y11-98[2+] (0.05)
525.239	1988.81 <sub>3</sub>	8.21	b6o (0.00)
543.223	1111.56 <sub>3</sub>	4.59	b6 (-0.01)
565.725	9228.90 <sub>3</sub>	38.12	y11[2+] (-0.02)
574.273	1052.08 <sub>3</sub>	4.34	y12-98[2+] (-0.00)
623.234	3071.68 <sub>3</sub>	12.69	y12[2+] (-0.03) : b7* (-0.03) : y6-98 (-0.08)
629.480	1360.09 <sub>3</sub>	5.61	
651.420	11622.16 <sub>3</sub>	48.01	a8o (0.10)
691.475	5853.85 <sub>3</sub>	24.18	
697.184	1474.70 <sub>3</sub>	6.09	b8 (-0.13)
700.363	24205.44 <sub>3</sub>	100	
721.353	2069.46 <sub>3</sub>	8.54	y6 (0.04)
734.343	361.05 <sub>3</sub>	1.49	
777.333	1677.25 <sub>3</sub>	6.92	b9* (-0.00) : y8-98 (-0.05)
778.288	976.96 <sub>3</sub>	4.03	y7 (-0.03)

834.378	852.98 <sub>3</sub>	3.52	b10* (0.01) : y9-98 (-0.03)
851.249	389.58 <sub>3</sub>	1.60	b10 (-0.14)
875.289	5525.33 <sub>3</sub>	22.82	y8 (-0.08)
876.397	735.03 <sub>3</sub>	3.03	
902.148	416.18 <sub>3</sub>	1.71	
920.264	2068.23 <sub>3</sub>	8.54	b11-98 (-0.13)
921.339	364.42 <sub>3</sub>	1.50	
931.456	6299.69 <sub>3</sub>	26.02	y10-98 (-0.01)
932.614	2944.36 <sub>3</sub>	12.16	y9 (0.21)
1000.140	295.93 <sub>3</sub>	1.22	b11o (-0.23)
1018.408	338.78 <sub>3</sub>	1.39	b11 (0.01)
1029.391	15285.28 <sub>3</sub>	63.14	y10 (-0.06)
1030.354	2369.95 <sub>3</sub>	9.79	
1130.354	286.77 <sub>3</sub>	1.18	y11 (-0.14)
1145.387	678.78 <sub>3</sub>	2.80	b13-98 (-0.12)
1225.316	415.89 <sub>3</sub>	1.71	b13o (-0.17)
1243.292	922.19 <sub>3</sub>	3.80	b13 (-0.20)

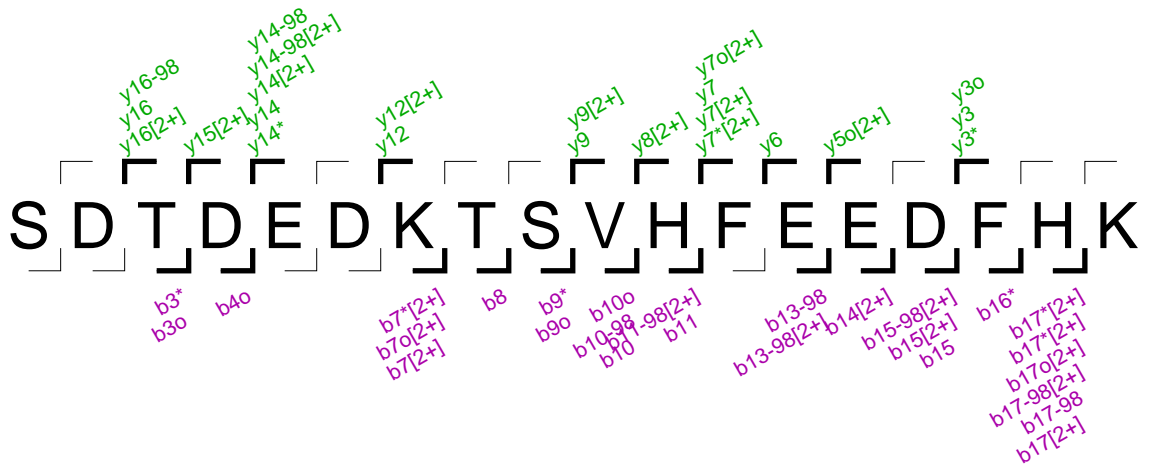
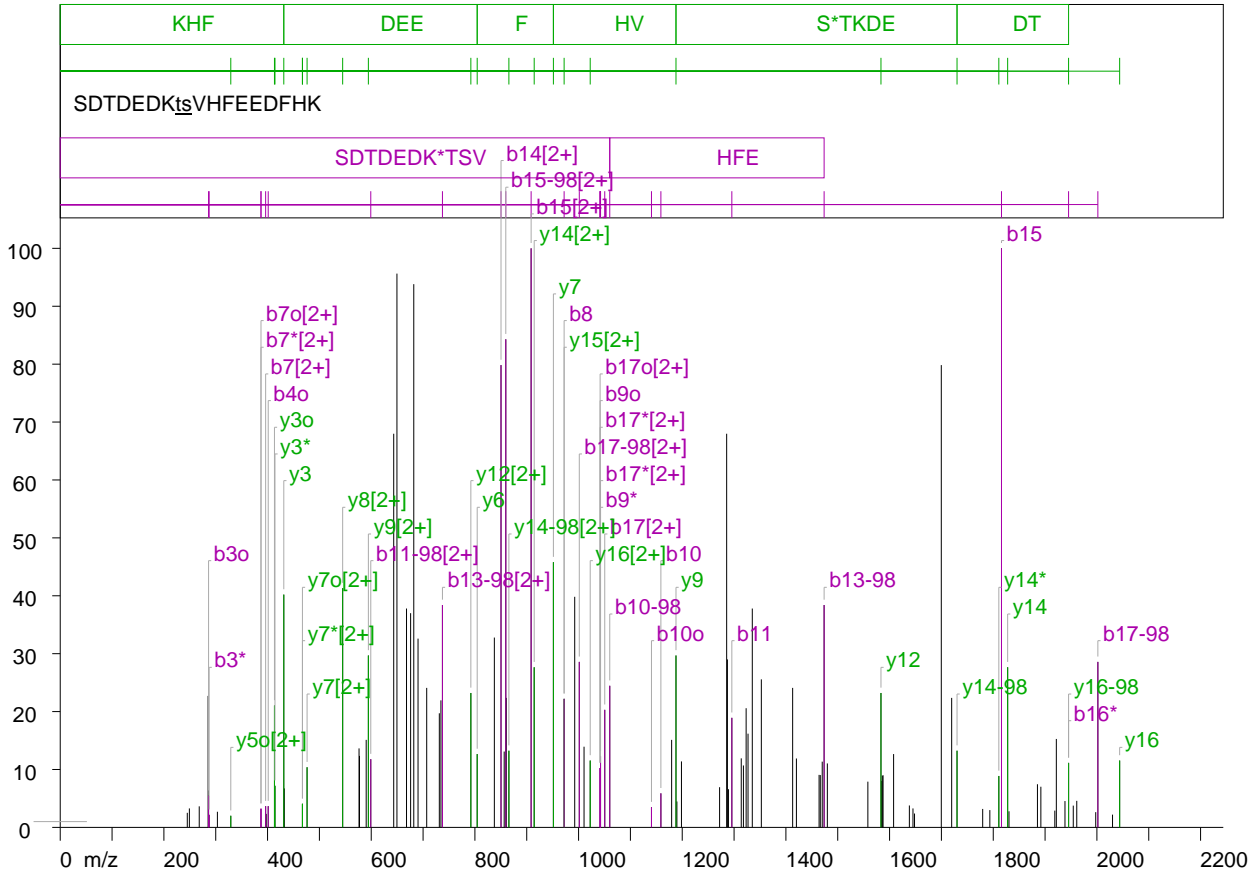
T1034 or

S1035



# ProPhosSI MS/MS report

Mass: 749.302559 Charge: 3+



## Cav3.2 human

(27) 1027 SDTDEDK [stVHFEEDFK 1044 2244.884 \(-0.0006\) Da](#)

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
8 or 9	(1034 or 1035)	Phospho (ST)	y9=> y14-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	7 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	y9 to y 14-98 suggests phosphorylation at position 8 or 9
Four Sequential b or y ions	1/1	Sequence of four y ions found from y6 to y9.
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	0/0	
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 908.475: intensity: 3252.97) assigned 1 times ion 2 (mass: 1815.942: intensity: 3252.97) assigned 1 times ion 3 (mass: 649.612: intensity: 3111.14) assigned 0 times ion 4 (mass: 682.082: intensity: 3051.69) assigned 0 times ion 5 (mass: 859.576: intensity: 2742.17) assigned 2 times ion 6 (mass: 850.407: intensity: 2597.12) assigned 1 times ion 7 (mass: 1699.807: intensity: 2597.12) assigned 0 times ion 8 (mass: 643.366: intensity: 2211.53) assigned 0 times ion 9 (mass: 1285.724: intensity: 2211.53) assigned 0 times ion 10 (mass: 951.444: intensity: 1489.84) assigned 1 times

## Ion Table

43 ions assigned of 108 ions above threshold (39%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
S	1	88.039	71.013	-	70.029
D	2	203.066	186.040	-	185.056
T	3	304.114	287.087 *287.288 (2)	-	286.103 286.178 (5)

D	4	419.141	402.114	-	401.130 401.245 (3)
E	5	548.184	531.157	-	530.173
D	6	663.210	646.184	-	645.200
K	7	791.305 396.285 [2+] (3)	774.279 *387.339 [2+] (3)	-	773.295 *387.339 [2+] (3)
t	8	972.319 *972.139 (22)	955.293	874.334	954.309
S	9	1059.351	1042.325 *1042.370 (12)	961.366	1041.341 *1041.546 (10)
V	10	1158.420 1158.802 (5)	1141.393	1060.434 1060.150 (24)	1140.409 1140.641 (3)
H	11	1295.479 1295.692 (18)	1278.452	1197.493 599.128 [2+] (11)	1277.468
F	12	1442.547	1425.521	1344.561	1424.537
E	13	1571.590	1554.563	1473.604 1473.709 (38) 737.358 [2+] (38)	1553.579
E	14	1700.632 850.407 [2+] (79)	1683.606	1602.647	1682.622
D	15	1815.659 908.475 [2+] (100) 1815.942 (100)	1798.633	1717.673 *859.576 [2+] (84)	1797.649
F	16	1962.728	1945.701 *1945.365 (11)	1864.742	1944.717
H	17	2099.787 1050.522 [2+] (20)	2082.760 *1042.370 [2+] (12) *1041.546 [2+] (10)	2001.801 1001.419 [2+] (28) 2001.830 (28)	2081.776 *1041.546 [2+] (10)
K	18	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
S	18	-	-	-	-
D	17	2158.860	2141.834	2060.874	2140.850
T	16	2043.833 1022.433 [2+] (11) 2043.858 (11)	2026.807	1945.847 *1945.365 (11)	2025.823
D	15	1942.786 *972.139 [2+] (22)	1925.759	1844.800	1924.775
E	14	1827.759 1827.810 (27) 914.408 [2+] (27)	1810.732 *1810.755 (8)	1729.773 865.580 [2+] (13) 1730.154 (13)	1809.748
D	13	1698.716	1681.689	1600.730	1680.705
K	12	1583.689 1583.390 (23) 792.199 [2+] (23)	1566.663	1485.703	1565.679
t	11	1455.594	1438.568	1357.608	1437.584
S	10	1274.580	1257.554	-	1256.570
V	9	1187.548 1187.943 (29) 594.475 [2+] (29)	1170.522	-	1169.538
H	8	1088.480 544.887 [2+] (41)	1071.453	-	1070.469
F	7	951.421 476.240 [2+] (10) 951.444 (45)	934.394 *467.302 [2+] (4)	-	933.410 *467.302 [2+] (4)
E	6	804.352 804.406 (12)	787.326	-	786.342
E	5	675.310	658.283	-	657.299 329.048 [2+] (2)

D	4	546.267	529.241	-	528.257
F	3	431.240 431.298 (40)	414.214 *414.270 (7)	-	413.230 413.313 (21)
H	2	284.172	267.145	-	266.161
K	1	147.113	130.086	-	129.102

### Ion distribution

Threshold	Ion count	Matches	% matched
0	108	43	39
0.5	108	43	39
1	108	43	39
2	108	43	39
3	97	41	42
4	87	37	42
5	83	36	43
10	68	32	47

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
245.127	81.91 <sub>1</sub>	2.51	
249.149	106.60 <sub>1</sub>	3.27	
268.177	118.30 <sub>1</sub>	3.63	
285.251	738.77 <sub>1</sub>	22.71	
286.178	177.64 <sub>1</sub>	5.46	b3o (0.07)
287.288	70.54 <sub>1</sub>	2.16	b3* (0.20) : x4[2+] (-0.34)
303.217	87.88 <sub>1</sub>	2.70	
329.048	65.39 <sub>1</sub>	2.01	y5o[2+] (-0.10)
387.339	104.87 <sub>1</sub>	3.22	b7o[2+] (0.18) : b7*[2+] (-0.30)
396.285	119.15 <sub>1</sub>	3.66	b7[2+] (0.12)
397.341	75.96 <sub>1</sub>	2.33	
401.245	119.24 <sub>1</sub>	3.66	b4o (0.11)
413.313	684.73 <sub>1</sub>	21.04	y3o (0.08)
414.270	233.79 <sub>1</sub>	7.18	y3* (0.05) : z3 (0.05)
431.298	1307.76 <sub>1</sub>	40.20	y3 (0.05)
432.228	219.00 <sub>1</sub>	6.73	
467.302	132.58 <sub>1</sub>	4.07	y7o[2+] (0.09) : y7*[2+] (-0.39) : z7[2+] (-0.39)
476.240	337.97 <sub>1</sub>	10.38	y7[2+] (0.02)
544.887	1343.66 <sub>1</sub>	41.30	y8[2+] (0.14)
576.454	443.83 <sub>1</sub>	13.64	
577.346	401.70 <sub>1</sub>	12.34	
590.272	491.74 <sub>1</sub>	15.11	
594.475	965.64 <sub>1</sub>	29.68	y9[2+] (0.19)

599.128	383.25,	11.78	b11-98[2+] (-0.12)
643.366	2211.53,	67.98	
649.612	3111.14,	95.63	
668.092	1229.49,	37.79	
675.996	1203.46,	36.99	
682.082	3051.69,	93.81	
690.303	1060.44,	32.59	
707.001	783.77,	24.09	
731.375	641.12,	19.70	
734.466	713.72,	21.94	
737.358	1249.16,	38.40	b13-98[2+] (0.05)
792.199	755.10,	23.21	y12[2+] (-0.14)
804.406	411.93,	12.66	y6 (0.05)
837.535	1066.48,	32.78	
850.407	2597.12,	79.83	b14[2+] (-0.41)
856.490	426.18,	13.10	
859.576	2742.17,	84.29	c14[2+] (0.24) : b15-98[2+] (0.23)
860.405	727.61,	22.36	
865.580	430.78,	13.24	y14-98[2+] (0.18)
908.475	3252.97,	100	b15[2+] (0.14)
914.408	899.54,	27.65	y14[2+] (0.02)
951.444	1489.84,	45.79	y7 (0.02)
972.139	722.28,	22.20	y15[2+] (0.24) : b8 (-0.18)
992.583	1295.51,	39.82	
1001.419	929.78,	28.58	b17-98[2+] (0.01)
1010.552	453.32,	13.93	
1022.433	375.55,	11.54	y16[2+] (0.01)
1041.546	333.52,	10.25	b9o (0.20) : b17o[2+] (0.15) : b17*[2+] (-0.33)
1042.370	400.25,	12.30	b17*[2+] (0.48) : b9* (0.04)
1050.522	660.44,	20.30	b17[2+] (0.12)
1060.150	795.56,	24.45	b10-98 (-0.28)
1140.641	113.41,	3.48	b10o (0.23)
1158.802	191.31,	5.88	b10 (0.38)
1179.537	491.74,	15.11	
1187.943	965.64,	29.68	y9 (0.39)
1189.701	145.69,	4.47	
1198.470	370.68,	11.39	
1272.088	225.81,	6.94	
1285.724	2211.53,	67.98	
1287.141	943.68,	29.00	
1289.135	214.50,	6.59	
1295.692	615.54,	18.92	b11 (0.21)

1313.863	387.86 <sub>3</sub>	11.92	
1318.047	347.91 <sub>3</sub>	10.69	
1323.286	669.53 <sub>3</sub>	20.58	
1326.921	526.52 <sub>3</sub>	16.18	
1335.177	1229.49 <sub>3</sub>	37.79	
1352.624	831.70 <sub>3</sub>	25.56	
1412.995	783.77 <sub>3</sub>	24.09	
1420.246	387.06 <sub>3</sub>	11.89	
1464.013	295.07 <sub>3</sub>	9.07	
1466.324	293.94 <sub>3</sub>	9.03	
1470.057	369.39 <sub>3</sub>	11.35	
1473.709	1249.16 <sub>3</sub>	38.40	b13-98 (0.10)
1479.951	359.31 <sub>3</sub>	11.04	
1558.106	256.95 <sub>3</sub>	7.89	
1583.390	755.10 <sub>3</sub>	23.21	y12 (-0.29)
1584.765	260.81 <sub>3</sub>	8.01	
1586.011	290.61 <sub>3</sub>	8.93	
1587.467	292.84 <sub>3</sub>	9.00	
1607.805	411.93 <sub>3</sub>	12.66	
1638.202	123.18 <sub>3</sub>	3.78	
1645.162	106.56 <sub>3</sub>	3.27	
1648.102	77.94 <sub>3</sub>	2.39	
1699.807	2597.12 <sub>3</sub>	79.83	
1719.803	727.61 <sub>3</sub>	22.36	
1730.154	430.78 <sub>3</sub>	13.24	y14-98 (0.38)
1779.667	103.74 <sub>3</sub>	3.18	
1793.445	97.21 <sub>3</sub>	2.98	
1810.755	288.89 <sub>3</sub>	8.88	y14* (0.02) : z14 (0.02)
1815.942	3252.97 <sub>3</sub>	100	b15 (0.28)
1827.810	899.54 <sub>3</sub>	27.65	y14 (0.05)
1830.367	90.54 <sub>3</sub>	2.78	
1885.273	242.46 <sub>3</sub>	7.45	
1891.869	228.48 <sub>3</sub>	7.02	
1918.794	94.23 <sub>3</sub>	2.89	
1921.726	496.88 <sub>3</sub>	15.27	
1938.393	147.99 <sub>3</sub>	4.54	
1945.365	362.31 <sub>3</sub>	11.13	b16* (-0.33) : y16-98 (-0.48)
1954.411	122.35 <sub>3</sub>	3.76	
1961.117	149.19 <sub>3</sub>	4.58	
1997.744	85.67 <sub>3</sub>	2.63	
2001.830	929.78 <sub>3</sub>	28.58	b17-98 (0.02)
2030.146	71.75 <sub>3</sub>	2.20	

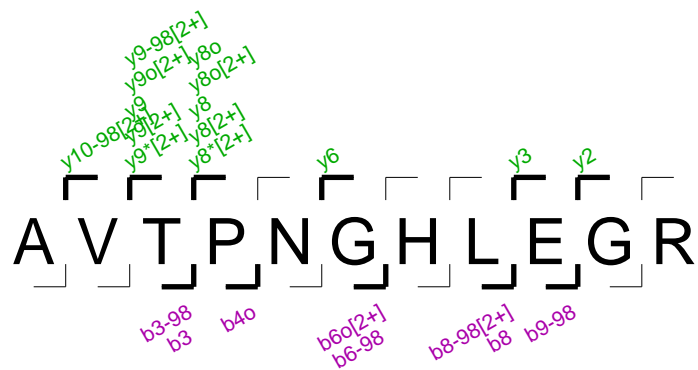
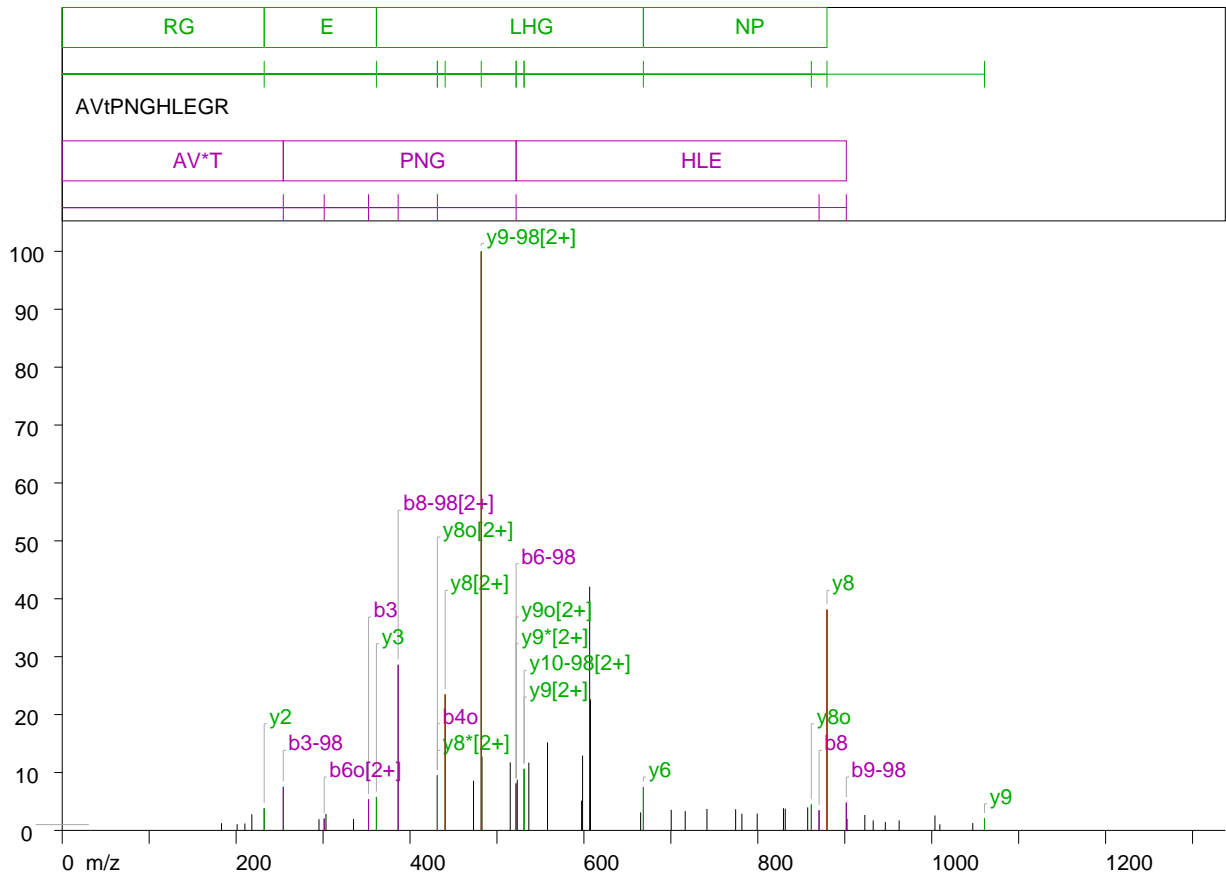
2043.858	375.55	11.54	y16 (0.02)
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**T1061**



# ProPhosSI MS/MS report

Mass: 615.784341 Charge: 2+



## Cav3.2 human

(16) 1059 AVtPNGHLEGR 1069 1229.555 (-0.0023) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(1061)	Phospho (ST)	y8 => y9-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 ions present	1/1	6 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y8 to y9-98 support unique phosphorylation at position 3  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	2/2	PASS: y8> y7  PASS: b4-98< b3-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	4/6	ion 1 (mass: 481.934: intensity: 1691.47) assigned 1 times ion 2 (mass: 606.609: intensity: 711.99) assigned 0 times ion 3 (mass: 879.541: intensity: 644.84) assigned 1 times ion 4 (mass: 386.353: intensity: 483.93) assigned 1 times ion 5 (mass: 440.447: intensity: 397.30) assigned 1 times ion 6 (mass: 607.540: intensity: 382.53) assigned 0 times ion 7 (mass: 558.166: intensity: 256.89) assigned 0 times ion 8 (mass: 598.451: intensity: 218.67) assigned 0 times ion 9 (mass: 482.740: intensity: 216.12) assigned 0 times ion 10 (mass: 515.277: intensity: 198.56) assigned 0 times

## Ion Table

18 ions assigned of 42 ions above threshold (42%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
A	1	72.044	55.018	-	54.034
V	2	171.113	154.086	-	153.102
t	3	352.127 352.274 (5)	335.100	254.141 254.232 (7)	334.116

P	4	449.180	432.153	351.194	431.169 *431.457 (9)
N	5	563.223	546.196	465.237	545.212
G	6	620.244	603.217	522.258 *522.007 (8)	602.233 301.303 [2+] (2)
H	7	757.303	740.276	659.317	739.292
L	8	870.387 870.466 (3)	853.360	772.401 386.353 [2+] (28)	852.376
E	9	999.430	982.403	901.444 901.774 (4)	981.419
G	10	1056.451	1039.425	958.465	1038.441
R	11	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
A	11	-	-	-	-
V	10	1159.526	1142.499	1061.540 *531.204 [2+] (10)	1141.515
t	9	1060.457 *531.204 [2+] (10) 1060.678 (2)	1043.431 *522.007 [2+] (8)	962.471 481.934 [2+] (100)	1042.447 *522.007 [2+] (8)
P	8	879.443 440.447 [2+] (23) 879.541 (38)	862.417 *431.457 [2+] (9)	-	861.433 *431.457 [2+] (9) 861.585 (4)
N	7	782.390	765.364	-	764.380
G	6	668.348 668.362 (7)	651.321	-	650.337
H	5	611.326	594.300	-	593.315
L	4	474.267	457.241	-	456.257
E	3	361.183 361.349 (5)	344.157	-	343.173
G	2	232.140 232.274 (3)	215.114	-	214.130
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	56	20	35
0.5	55	20	36
1	52	20	38
2	42	18	42
3	33	16	48
4	23	13	56
5	21	11	52
10	12	5	41

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
183.177	21.07	1.24	

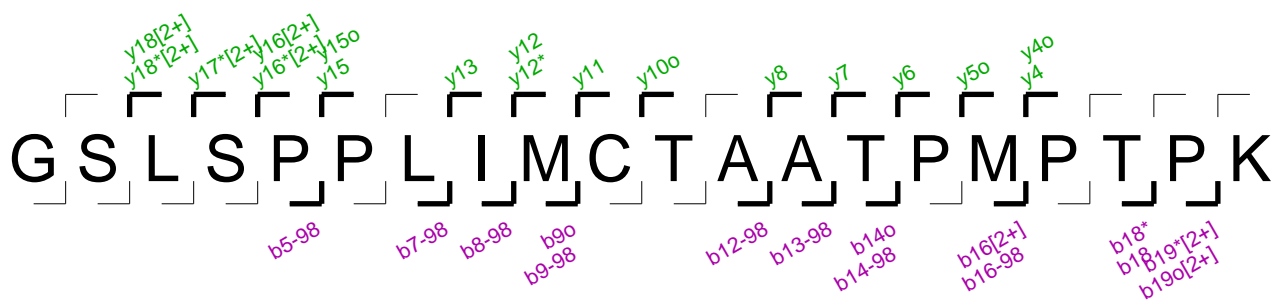
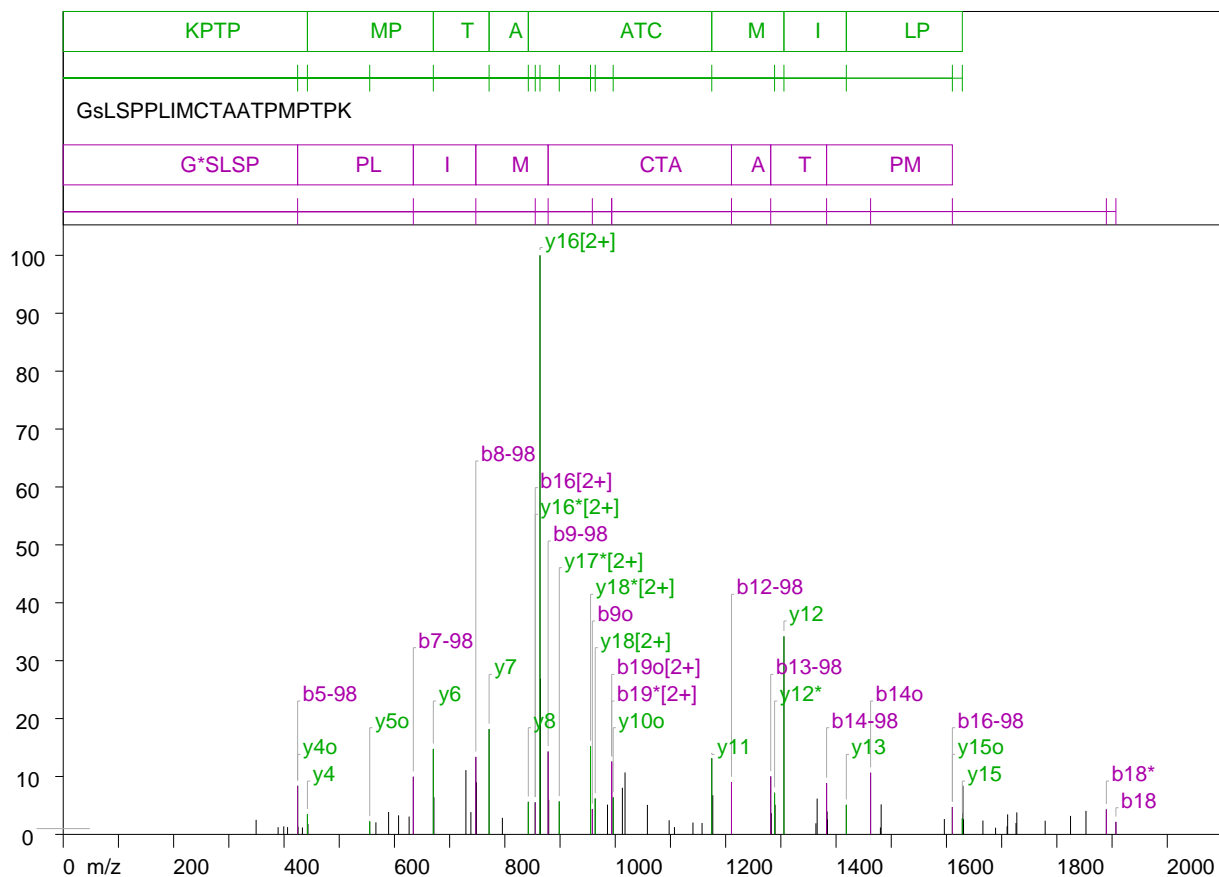
201.158	18.03,	1.06	
210.088	20.26,	1.19	
218.072	47.25,	2.79	
232.274	64.48,	3.81	y2 (0.13)
254.232	127.39,	7.53	b3-98 (0.09)
295.280	32.68,	1.93	
301.303	34.71,	2.05	b6o[2+] (-0.31)
303.347	48.22,	2.85	
335.010	33.28,	1.96	y6[2+] (0.33) : b3* (-0.09)
352.274	90.96,	5.37	b3 (0.14)
361.349	97.84,	5.78	y3 (0.16)
386.353	483.93,	28.61	b8-98[2+] (-0.35)
431.457	160.51,	9.48	b4o (0.28) : y8o[2+] (0.23) : y8*[2+] (-0.25) : z8[2+] (-0.25)
440.447	397.30,	23.48	y8[2+] (0.22)
473.017	145.09,	8.57	
481.934	1691.47,	100	y9-98[2+] (0.19)
482.740	216.12,	12.77	
515.277	198.56,	11.73	
522.007	136.84,	8.09	y9o[2+] (0.27) : y9*[2+] (-0.21) : z9[2+] (-0.21) : b6-98 (-0.25)
523.290	148.34,	8.76	
531.204	179.80,	10.62	y9[2+] (0.47) : y10-98[2+] (-0.07)
536.645	197.78,	11.69	
558.166	256.89,	15.18	
597.334	87.01,	5.14	
598.451	218.67,	12.92	
606.609	711.99,	42.09	
607.540	382.53,	22.61	
665.247	52.55,	3.10	
668.362	126.85,	7.49	y6 (0.01)
700.414	60.12,	3.55	
716.508	56.11,	3.31	
741.514	62.62,	3.70	
774.509	61.70,	3.64	c7 (0.17)
781.696	48.46,	2.86	
799.293	49.02,	2.89	
829.515	64.56,	3.81	
831.558	63.32,	3.74	
857.367	67.17,	3.97	
861.585	75.76,	4.47	y8o (0.15)
870.466	58.87,	3.48	b8 (0.07)

879.541	644.84 <sub>3</sub>	38.12	y8 (0.09)
901.774	81.43 <sub>3</sub>	4.81	b9-98 (0.32)
902.608	34.28 <sub>3</sub>	2.02	
923.075	45.00 <sub>3</sub>	2.66	
932.697	29.21 <sub>3</sub>	1.72	
946.634	24.27 <sub>3</sub>	1.43	
962.571	29.29 <sub>3</sub>	1.73	y9-98 (0.09)
1003.737	43.65 <sub>3</sub>	2.58	
1009.366	17.90 <sub>3</sub>	1.05	
1047.228	21.43 <sub>3</sub>	1.26	
1060.678	35.00 <sub>3</sub>	2.06	y9 (0.22)

**S1071**

# ProPhosSI MS/MS report

Mass: 1075.507504 Charge: 2+



## Cav3.2 human

(35) 1070  $\tilde{\text{G}}\text{sLSPPLIMCTAATPMPTPK 1089 2149.002 (-0.0029) \text{ Da}$

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
2	(1071)	Phospho (ST)	y17*[2+], y18[2+], y18*[2+] exclude phosphorylation on other position except position 2

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	No transitions found to support unique phosphorylation at position 2  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	1/1	Five of Six ions found between y11 and y16
Proline directed fragmentation pattern	7/8	NOTE: S-P is a low abundance fragmentation. PASS: y16> y15 with ratio 35.7  FAIL: b5-98> b4-98 NOTE: P-P is a low abundance fragmentation. PASS: y15> y14  PASS: b6-98< b5-98  PASS: y6> y5  PASS: b15-98< b14-98  PASS: y4> y3  PASS: b17-98< b16-98  No proline ions at y2 No proline ions at b19-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	9/6	ion 1 (mass: 863.680: intensity: 371.96) assigned 2 times ion 2 (mass: 1305.616: intensity: 127.22) assigned 1 times ion 3 (mass: 864.483: intensity: 100.05) assigned 0 times ion 4 (mass: 771.487: intensity: 67.69) assigned 1 times ion 5 (mass: 955.242: intensity: 56.75) assigned 2 times ion 6 (mass: 670.452: intensity: 54.92) assigned 1 times ion 7 (mass: 878.431: intensity: 53.24) assigned 1 times ion 8 (mass: 747.408: intensity: 49.79) assigned 1 times ion 9 (mass: 1174.841: intensity: 48.99) assigned 1 times ion 10 (mass: 993.544: intensity: 46.73) assigned 3 times



## Ion Table

30 ions assigned of 63 ions above threshold (47%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
G	1	58.029	41.002	-	40.018
s	2	225.027	208.001	127.041	207.017
L	3	338.111	321.085	240.125	320.101
S	4	425.143	408.117	327.157	407.133
P	5	522.196	505.169	424.210 *424.594 (8)	504.185
P	6	619.249	602.222	521.263	601.238
L	7	732.333	715.306	634.347 634.236 (9)	714.322
I	8	845.417	828.390	747.431 747.408 (13)	827.406
M	9	976.457	959.431	878.471 878.431 (14)	958.447 958.552 (4)
C	10	1136.488	1119.461	1038.502	1118.477
T	11	1237.536	1220.509	1139.550	1219.525
A	12	1308.573	1291.546	1210.587 1210.558 (9)	1290.562
A	13	1379.610	1362.583	1281.624 1281.651 (10)	1361.599
T	14	1480.658	1463.631	1382.672 1382.848 (8)	1462.647 1462.603 (10)
P	15	1577.710	1560.684	1479.725	1559.700
M	16	1708.751 *855.101 [2+] (5)	1691.724	1610.765 *1610.746 (4)	1690.740
P	17	1805.804	1788.777	1707.818	1787.793
T	18	1906.851 1906.964 (2)	1889.825 1889.671 (4)	1808.865	1888.841
P	19	2003.904	1986.878 *993.544 [2+] (12)	1905.918	1985.894 *993.544 [2+] (12)
K	20	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
G	20	-	-	-	-
s	19	2092.988	2075.962	1995.002	2074.978
L	18	1925.990 963.730 [2+] (6)	1908.963 *955.242 [2+] (15)	-	1907.979
S	17	1812.906	1795.879 *898.608 [2+] (5)	-	1794.895
P	16	1725.874 *863.680 [2+] (100)	1708.847 *855.101 [2+] (5)	-	1707.863
P	15	1628.821 1628.758 (2)	1611.794	-	1610.810 *1610.746 (4)
L	14	1531.768	1514.742	-	1513.758
I	13	1418.684 1418.613 (5)	1401.658	-	1400.674
M	12	1305.600 1305.616 (34)	1288.574 *1288.633 (7)	-	1287.590
C	11	1174.560 1174.841 (13)	1157.533	-	1156.549

T	10	1014.529	997.502	-	996.518 996.261 (6)
A	9	913.481	896.455	-	895.471
A	8	842.444 842.522 (5)	825.418	-	824.434
T	7	771.407 771.487 (18)	754.380	-	753.396
P	6	670.359 670.452 (14)	653.333	-	652.349
M	5	573.307	556.280	-	555.296 *555.219 (2)
P	4	442.266 *442.355 (3)	425.240	-	424.256 *424.594 (8)
T	3	345.213	328.187	-	327.203
P	2	244.166	227.139	-	226.155
K	1	147.113	130.086	-	129.102

### Ion distribution

Threshold	Ion count	Matches	% matched
0	79	34	43
0.5	79	34	43
1	76	34	44
2	63	30	47
3	50	26	52
4	40	25	62
5	36	22	61
10	14	11	78

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
349.452	9.35 <sub>2</sub>	2.51	x6[2+] (-0.22)
389.310	4.63 <sub>2</sub>	1.24	
399.503	5.14 <sub>2</sub>	1.38	
406.379	4.66 <sub>2</sub>	1.25	
424.594	31.20 <sub>2</sub>	8.38	b5-98 (0.38) : y4o (0.33)
425.329	4.96 <sub>2</sub>	1.33	b4 (0.18) : y4* (0.08) : z4 (0.08)
433.291	4.42 <sub>2</sub>	1.18	
442.355	12.94 <sub>2</sub>	3.47	c4 (0.18) : y4 (0.08)
443.357	6.68 <sub>2</sub>	1.79	
555.219	8.35 <sub>2</sub>	2.24	a10[2+] (0.46) : y5o (-0.07)
566.435	7.77 <sub>2</sub>	2.08	
589.417	14.43 <sub>2</sub>	3.87	
607.484	12.24 <sub>2</sub>	3.29	
626.608	11.46 <sub>2</sub>	3.08	
634.236	37.05 <sub>2</sub>	9.96	b7-98 (-0.11)

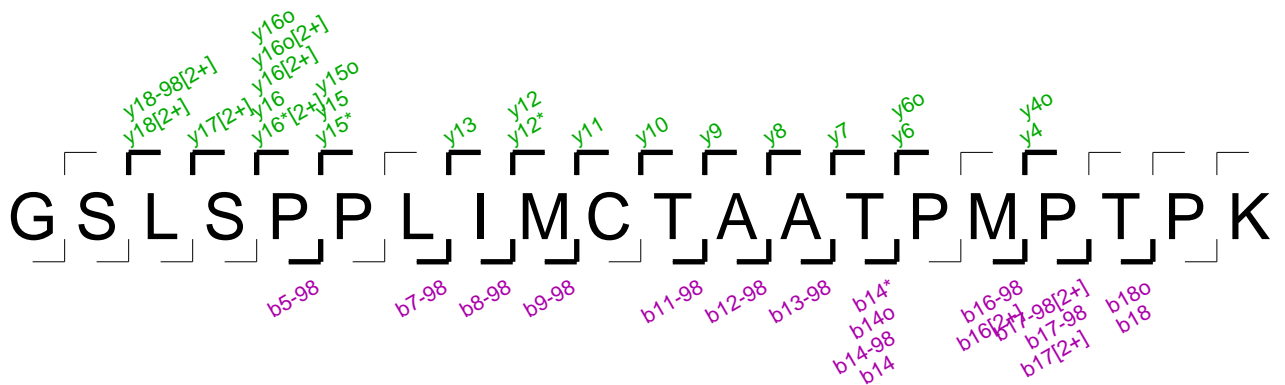
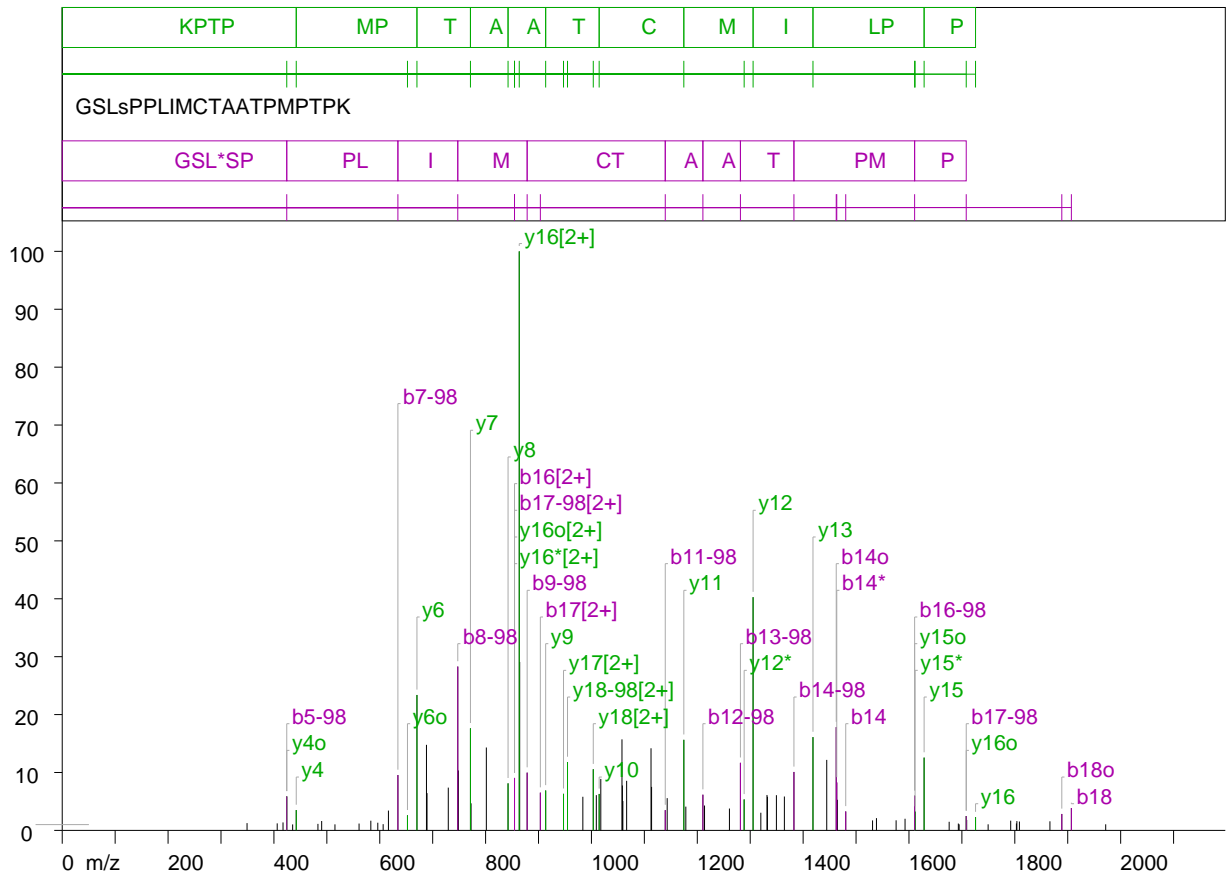
670.452	54.92 <sub>3</sub>	14.76	y6 (0.09)
671.535	23.90 <sub>3</sub>	6.42	
729.453	41.29 <sub>3</sub>	11.10	
738.509	14.32 <sub>3</sub>	3.84	
747.408	49.79 <sub>3</sub>	13.38	b8-98 (-0.02)
748.471	33.49 <sub>3</sub>	9.00	
771.487	67.69 <sub>3</sub>	18.19	y7 (0.07)
795.562	10.63 <sub>3</sub>	2.85	
842.522	20.93 <sub>3</sub>	5.62	y8 (0.07)
855.101	20.57 <sub>3</sub>	5.53	b16[2+] (0.22) : y16*[2+] (0.17) : z16[2+] (0.17)
863.680	371.96 <sub>3</sub>	100	c16[2+] (0.28) : y16[2+] (0.23)
864.483	100.05 <sub>3</sub>	26.89	
878.431	53.24 <sub>3</sub>	14.31	b9-98 (-0.04)
879.483	22.21 <sub>3</sub>	5.97	
898.608	21.17 <sub>3</sub>	5.69	y17*[2+] (0.16) : z17[2+] (0.16)
955.242	56.75 <sub>3</sub>	15.25	y18*[2+] (0.25) : z18[2+] (0.25)
958.552	16.33 <sub>3</sub>	4.39	b9o (0.10)
963.730	23.08 <sub>3</sub>	6.20	y18[2+] (0.23)
985.962	19.13 <sub>3</sub>	5.14	
993.544	46.73 <sub>3</sub>	12.56	b19o[2+] (0.09) : c9 (0.05) : b19*[2+] (-0.39)
996.261	23.82 <sub>3</sub>	6.40	y10o (-0.25)
1012.957	29.96 <sub>3</sub>	8.05	
1017.717	39.80 <sub>3</sub>	10.70	
1058.262	18.96 <sub>3</sub>	5.09	
1097.650	9.09 <sub>3</sub>	2.44	
1107.263	4.69 <sub>3</sub>	1.26	
1140.762	7.61 <sub>3</sub>	2.04	
1157.253	7.33 <sub>3</sub>	1.97	y11* (-0.28) : z11 (-0.28)
1174.841	48.99 <sub>3</sub>	13.17	y11 (0.28)
1176.688	25.14 <sub>3</sub>	6.75	
1210.558	33.61 <sub>3</sub>	9.03	b12-98 (-0.02)
1281.651	37.25 <sub>3</sub>	10.01	b13-98 (0.02)
1282.710	13.67 <sub>3</sub>	3.67	
1288.633	26.76 <sub>3</sub>	7.19	y12* (0.05) : z12 (0.05)
1289.518	19.05 <sub>3</sub>	5.12	
1305.616	127.22 <sub>3</sub>	34.20	y12 (0.01)
1363.520	7.13 <sub>3</sub>	1.91	
1365.749	23.00 <sub>3</sub>	6.18	
1382.848	33.01 <sub>3</sub>	8.87	b14-98 (0.17)
1383.798	14.71 <sub>3</sub>	3.95	

1384.511	9.66 <sub>,</sub>	2.59	
1418.613	19.02 <sub>,</sub>	5.11	y13 (-0.07)
1462.603	39.61 <sub>,</sub>	10.64	b14o (-0.04)
1480.351	4.44 <sub>,</sub>	1.19	b14 (-0.30)
1481.739	19.27 <sub>,</sub>	5.18	
1596.179	9.88 <sub>,</sub>	2.65	
1610.746	17.59 <sub>,</sub>	4.72	b16-98 (-0.01) : y15o (-0.06)
1628.758	10.41 <sub>,</sub>	2.79	y15 (-0.06)
1629.869	31.27 <sub>,</sub>	8.40	
1630.931	9.64 <sub>,</sub>	2.59	
1666.030	8.90 <sub>,</sub>	2.39	
1688.994	4.29 <sub>,</sub>	1.15	
1709.877	5.20 <sub>,</sub>	1.39	
1710.856	12.86 <sub>,</sub>	3.45	
1726.004	7.33 <sub>,</sub>	1.97	c16 (0.22) : y16 (0.12)
1727.451	14.13 <sub>,</sub>	3.79	
1778.799	8.78 <sub>,</sub>	2.36	
1824.782	11.88 <sub>,</sub>	3.19	
1852.735	15.12 <sub>,</sub>	4.06	
1889.671	16.04 <sub>,</sub>	4.31	b18* (-0.15)
1906.964	8.05	2.16	b18 (0.11)

**S1073**

# ProPhosSI MS/MS report

Mass: 1075.506824 Charge: 2+



## Cav3.2 human

(56) 1070 ~GSLsPPLIMCTAATPMPTPK 1089 2149.002 (-0.0043) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
4	(1073)	Phospho (ST)	y16[2+] =>y18-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	11 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y16[2+] to y18-98[2+] support unique phosphorylation at position 4  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b11-98 to b14-98. Sequence of four y ions found from y6 to y9.
Five of six sequential ions present	1/1	Five of Six ions found between b7 and b12 Five of Six ions found between b8 and b13 Five of Six ions found between b9 and b14 Five of Six ions found between b11 and b16 Five of Six ions found between b12 and b17 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13 Five of Six ions found between y9 and y14 Five of Six ions found between y10 and y15 Five of Six ions found between y11 and y16
Proline directed fragmentation pattern	6/8	NOTE: S-P is a low abundance fragmentation. PASS: y16> y15 with ratio 7.95  FAIL: b5-98> b4-98 NOTE: P-P is a low abundance fragmentation. PASS: y15> y14  PASS: b6-98< b5-98  PASS: y6> y5  PASS: b15-98< b14-98  PASS: y4> y3  FAIL: b17-98> b16-98 No proline ions at y2 No proline ions at b19-98 

PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 863.609: intensity: 2898.35) assigned 2 times ion 2 (mass: 1305.457: intensity: 1167.39) assigned 1 times ion 3 (mass: 864.385: intensity: 843.04) assigned 0 times ion 4 (mass: 747.447: intensity: 820.08) assigned 1 times ion 5 (mass: 670.290: intensity: 677.85) assigned 1 times ion 6 (mass: 1462.573: intensity: 516.83) assigned 1 times ion 7 (mass: 771.350: intensity: 510.80) assigned 1 times ion 8 (mass: 1418.591: intensity: 466.87) assigned 1 times ion 9 (mass: 1057.718: intensity: 455.73) assigned 0 times ion 10 (mass: 1174.564: intensity: 453.40) assigned 1 times

## Ion Table

36 ions assigned of 65 ions above threshold (55%).

N-terminal ions

AA	N-ion	b	b*	b-98	bo
G	1	58.029	41.002	-	40.018
S	2	145.061	128.034	-	127.050
L	3	258.145	241.118	-	240.134
s	4	425.143	408.117	327.157	407.133
P	5	522.196	505.169	424.210 *424.246 (5)	504.185
P	6	619.249	602.222	521.263	601.238
L	7	732.333	715.306	634.347 634.301 (9)	714.322
I	8	845.417	828.390	747.431 747.447 (28)	827.406
M	9	976.457	959.431	878.471 878.522 (9)	958.447
C	10	1136.488	1119.461	1038.502	1118.477
T	11	1237.536	1220.509	1139.550 1139.511 (3)	1219.525
A	12	1308.573	1291.546	1210.587 1210.609 (6)	1290.562
A	13	1379.610	1362.583	1281.624 1281.538 (11)	1361.599
T	14	1480.658 1480.515 (3)	1463.631 1463.561 (8)	1382.672 1382.636 (10)	1462.647 1462.573 (17)
P	15	1577.710	1560.684	1479.725	1559.700
M	16	1708.751 *854.641 [2+] (9)	1691.724	1610.765 *1610.693 (5)	1690.740
P	17	1805.804 903.450 [2+] (6)	1788.777	1707.818 *854.641 [2+] (9) *1708.203 (2)	1787.793
T	18	1906.851 1906.861 (3)	1889.825	1808.865	1888.841 1888.767 (2)
P	19	2003.904	1986.878	1905.918	1985.894
K	20	-	-	-	-



## C-terminal ions

AA	C-ion	y	y*	y-98	yo
G	20	-	-	-	-
S	19	2092.988	2075.962	1995.002	2074.978
L	18	2005.956 1003.474 [2+] (10)	1988.930	1907.970 954.763 [2+] (11)	1987.946
s	17	1892.872 947.197 [2+] (6)	1875.846	1794.886	1874.862
P	16	1725.874 *1725.819 (2) *863.609 [2+] (100)	1708.847 *854.641 [2+] (9)	-	1707.863 *854.641 [2+] (9) *1708.203 (2)
P	15	1628.821 1628.641 (12)	1611.794 *1611.561 (3)	-	1610.810 *1610.693 (5)
L	14	1531.768	1514.742	-	1513.758
I	13	1418.684 1418.591 (16)	1401.658	-	1400.674
M	12	1305.600 1305.457 (40)	1288.574 *1288.583 (5)	-	1287.590
C	11	1174.560 1174.564 (15)	1157.533	-	1156.549
T	10	1014.529 1014.588 (6)	997.502	-	996.518
A	9	913.481 913.504 (6)	896.455	-	895.471
A	8	842.444 842.420 (8)	825.418	-	824.434
T	7	771.407 771.350 (17)	754.380	-	753.396
P	6	670.359 670.290 (23)	653.333	-	652.349 652.387 (2)
M	5	573.307	556.280	-	555.296
P	4	442.266 *442.231 (3)	425.240	-	424.256 *424.246 (5)
T	3	345.213	328.187	-	327.203
P	2	244.166	227.139	-	226.155
K	1	147.113	130.086	-	129.102

## Ion distribution

Threshold	Ion count	Matches	% matched
0	98	43	43
0.5	97	42	43
1	89	41	46
2	65	36	55
3	59	32	54
4	51	27	52
5	48	27	56
10	20	13	65

## Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
349.232	36.48,	1.25	x6[2+] (-0.44)

406.244	35.18,	1.21	
417.215	39.93,	1.37	
424.246	170.11,	5.86	b5-98 (0.03) : y4o (-0.01)
435.419	29.92,	1.03	x8[2+] (-0.30)
442.231	101.81,	3.51	c4 (0.06) : y4 (-0.03)
483.207	32.68,	1.12	
490.248	46.94,	1.61	
515.347	30.25,	1.04	
560.881	34.32,	1.18	
583.142	48.55,	1.67	
596.280	38.42,	1.32	a11o[2+] (0.01) : a11*[2+] (-0.48)
606.388	31.19,	1.07	
616.413	99.21,	3.42	
634.301	277.09,	9.56	b7-98 (-0.04)
652.387	75.33,	2.59	y6o (0.03)
670.290	677.85,	23.38	y6 (-0.06)
688.283	428.27,	14.77	
689.325	186.58,	6.43	
729.495	214.15,	7.38	
747.447	820.08,	28.29	b8-98 (0.01)
748.512	300.06,	10.35	
771.350	510.80,	17.62	y7 (-0.05)
772.521	135.59,	4.67	
801.405	414.95,	14.31	
842.420	235.52,	8.12	y8 (-0.02)
854.641	262.42,	9.05	b17-98[2+] (0.22) : y16o[2+] (0.20) : b16[2+] (-0.23) : y16*[2+] (-0.28) : z16[2+] (-0.28)
863.609	2898.35,	100	c16[2+] (0.21) : y16[2+] (0.16)
864.385	843.04,	29.08	
878.522	289.05,	9.97	b9-98 (0.05)
903.450	188.81,	6.51	b17[2+] (0.04)
913.504	199.81,	6.89	y9 (0.02)
947.197	182.98,	6.31	y17[2+] (0.25)
954.763	341.92,	11.79	y18-98[2+] (0.27)
983.764	168.31,	5.80	
1003.474	306.09,	10.56	y18[2+] (-0.00)
1009.213	176.45,	6.08	
1014.588	182.43,	6.29	y10 (0.05)
1017.689	257.74,	8.89	x18[2+] (0.20)
1057.718	455.73,	15.72	
1058.485	224.86,	7.75	

1059.336	146.99 <sub>3</sub>	5.07	
1066.490	248.14 <sub>3</sub>	8.56	
1112.565	411.09 <sub>3</sub>	14.18	
1113.639	217.79 <sub>3</sub>	7.51	
1139.511	101.41 <sub>3</sub>	3.49	b11-98 (-0.03)
1143.143	161.46 <sub>3</sub>	5.57	
1174.564	453.40 <sub>3</sub>	15.64	y11 (0.00)
1178.326	118.95 <sub>3</sub>	4.10	
1210.609	178.68 <sub>3</sub>	6.16	b12-98 (0.02)
1213.670	124.50 <sub>3</sub>	4.29	
1260.741	109.40 <sub>3</sub>	3.77	
1281.538	338.21 <sub>3</sub>	11.66	b13-98 (-0.08)
1288.583	155.07 <sub>3</sub>	5.35	y12* (0.00) : z12 (0.00)
1305.457	1167.39 <sub>3</sub>	40.27	y12 (-0.14)
1320.098	88.45 <sub>3</sub>	3.05	
1331.726	177.34 <sub>3</sub>	6.11	
1332.586	168.61 <sub>3</sub>	5.81	
1349.509	176.24 <sub>3</sub>	6.08	
1364.593	169.61 <sub>3</sub>	5.85	
1382.636	292.52 <sub>3</sub>	10.09	b14-98 (-0.03)
1418.591	466.87 <sub>3</sub>	16.10	y13 (-0.09)
1444.630	352.92 <sub>3</sub>	12.17	
1462.573	516.83 <sub>3</sub>	17.83	b14o (-0.07)
1463.561	239.82 <sub>3</sub>	8.27	b14* (-0.07)
1464.736	153.18 <sub>3</sub>	5.28	
1480.515	94.90 <sub>3</sub>	3.27	b14 (-0.14)
1531.205	50.07 <sub>3</sub>	1.72	
1538.566	61.39 <sub>3</sub>	2.11	
1575.700	50.50 <sub>3</sub>	1.74	
1592.596	58.30 <sub>3</sub>	2.01	
1610.693	173.32 <sub>3</sub>	5.97	b16-98 (-0.07) : y15o (-0.11)
1611.561	93.90 <sub>3</sub>	3.23	y15* (-0.23) : z15 (-0.23)
1628.641	364.34 <sub>3</sub>	12.57	y15 (-0.18)
1675.956	43.14 <sub>3</sub>	1.48	
1693.308	34.34 <sub>3</sub>	1.18	
1694.806	30.39 <sub>3</sub>	1.04	
1708.203	71.93 <sub>3</sub>	2.48	b17-98 (0.38) : y16o (0.33)
1709.067	52.25 <sub>3</sub>	1.80	b16 (0.31) : y16* (0.21) : z16 (0.21)
1725.819	66.18 <sub>3</sub>	2.28	c16 (0.04) : y16 (-0.05)
1749.593	30.43 <sub>3</sub>	1.04	
1792.236	48.72 <sub>3</sub>	1.68	
1802.996	34.92 <sub>3</sub>	1.20	

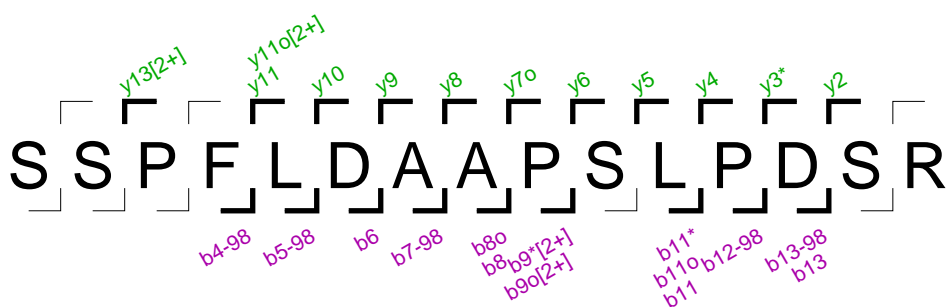
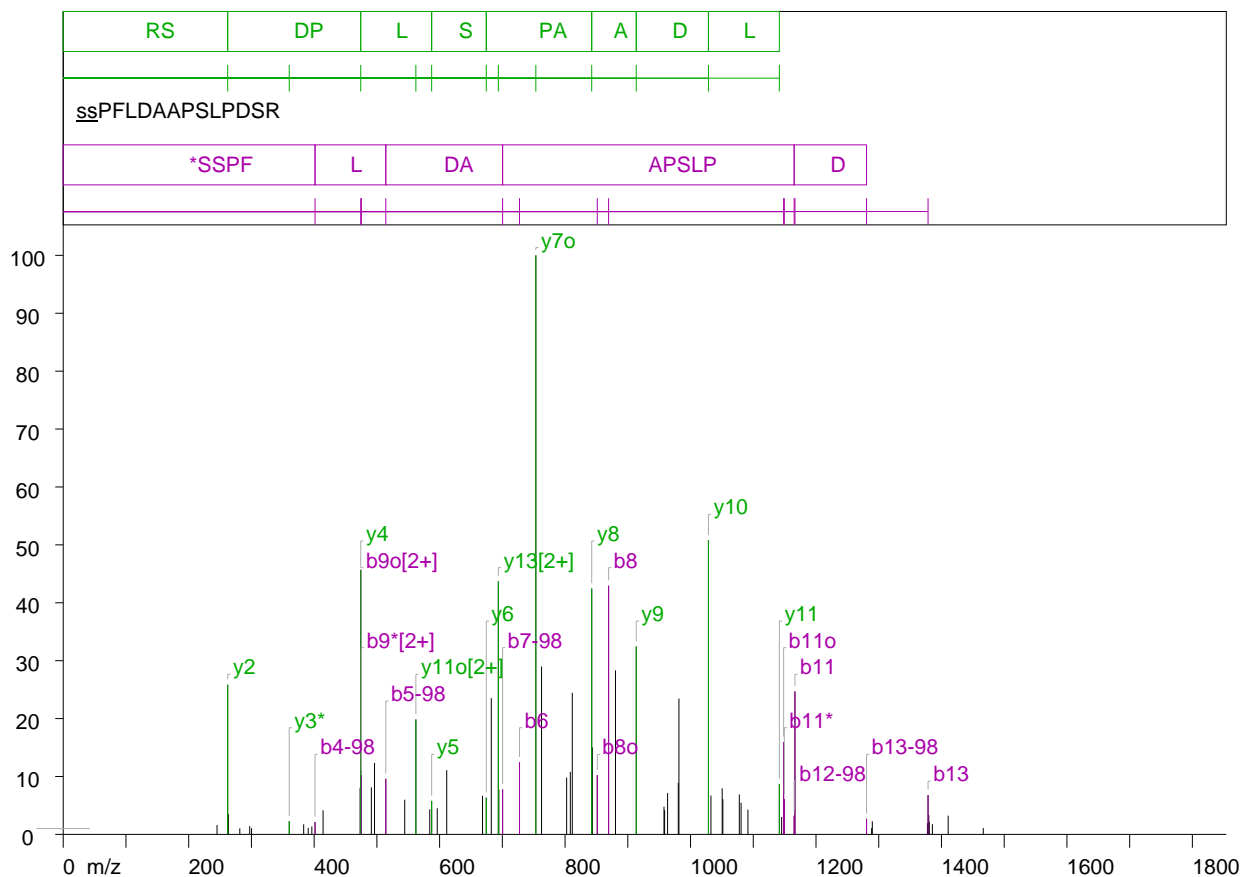
1803.908	46.69,	1.61	
1808.710	44.37,	1.53	b18-98 (-0.15)
1866.377	45.53,	1.57	
1888.767	82.24,	2.83	b18o (-0.07)
1906.861	111.88,	3.86	b18 (0.00)
1971.760	30.50,	1.05	

**S1090 or**

**S1091**

# ProPhosSI MS/MS report

Mass: 820.370345 Charge: 2+



## Cav3.2 human

(42) 1090 ssPFLDAAPSLPDSR 1104 1638.729 (-0.0040) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
1 or 2	(1090 or 1091)	Phospho (ST)	all the b ions from b4 to b9

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	5 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	No transitions found to support unique phosphorylation at position 1  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y8 to y11.
Five of six sequential ions present	1/1	Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y8 and y13
Proline directed fragmentation pattern	2/4	NOTE: S-P is a low abundance fragmentation. PASS: y13> y12  No proline ions at b3-98  FAIL: y7< y6 No proline ions at b9-98  PASS: y4> y3  FAIL: b12-98> b11-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 753.378: intensity: 4448.10) assigned 2 times ion 2 (mass: 1028.515: intensity: 2259.08) assigned 1 times ion 3 (mass: 474.263: intensity: 2032.17) assigned 2 times ion 4 (mass: 693.595: intensity: 1944.31) assigned 1 times ion 5 (mass: 869.357: intensity: 1910.45) assigned 1 times ion 6 (mass: 842.474: intensity: 1888.53) assigned 1 times ion 7 (mass: 913.483: intensity: 1443.23) assigned 1 times ion 8 (mass: 762.495: intensity: 1290.13) assigned 0 times ion 9 (mass: 880.408: intensity: 1259.92) assigned 0 times ion 10 (mass: 262.171: intensity: 1149.65) assigned 1 times

## Ion Table

27 ions assigned of 59 ions above threshold (45%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
s	1	168.006	150.979	70.020	149.995
S	2	255.038	238.011	157.052	237.027
P	3	352.090	335.064	254.105	334.080
F	4	499.159	482.132	401.173 401.419 (2)	481.148
L	5	612.243	595.216	514.257 514.166 (9)	594.232
D	6	727.270 727.344 (12)	710.243	629.284	709.259
A	7	798.307	781.280	700.321 700.423 (7)	780.296
A	8	869.344 869.357 (42)	852.318	771.358	851.334 851.363 (10)
P	9	966.397	949.370 475.258 [2+] (10)	868.411	948.386 *474.263 [2+] (45)
S	10	1053.429	1036.402	955.443	1035.418
L	11	1166.513 1166.452 (24)	1149.486 1149.499 (6)	1068.527	1148.502 1148.371 (15)
P	12	1263.566	1246.539	1165.580 1165.174 (3)	1245.555
D	13	1378.593 1378.631 (6)	1361.566	1280.607 *1280.573 (2)	1360.582
S	14	1465.625	1448.598	1367.639	1447.614
R	15	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	yo
s	15	-	-	-
S	14	1472.738	1455.712	1454.728
P	13	1385.706 693.595 [2+] (43)	1368.680	1367.696
F	12	1288.653	1271.627	1270.643
L	11	1141.585 1141.582 (8)	1124.558	1123.574 562.145 [2+] (19)
D	10	1028.501 1028.515 (50)	1011.474	1010.490
A	9	913.474 913.483 (32)	896.447	895.463
A	8	842.437 842.474 (42)	825.410	824.426
P	7	771.400	754.373	753.389 *753.378 (100)
S	6	674.347 674.370 (6)	657.320	656.336
L	5	587.315 587.303 (5)	570.288	569.304
P	4	474.231 *474.263 (45)	457.204	456.220
D	3	377.178	360.151 *360.309 (2)	359.167
S	2	262.151 262.171 (25)	245.124	244.140



R	1	175.119	158.092	157.108
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### Ion distribution

Threshold	Ion count	Matches	% matched
0	85	34	40
0.5	78	34	43
1	70	32	45
2	59	27	45
3	54	24	44
4	49	23	46
5	43	22	51
10	23	15	65

### Observed ions > 1%

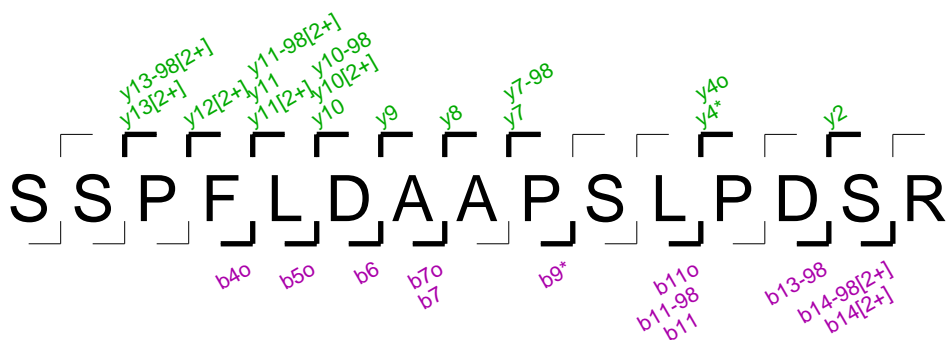
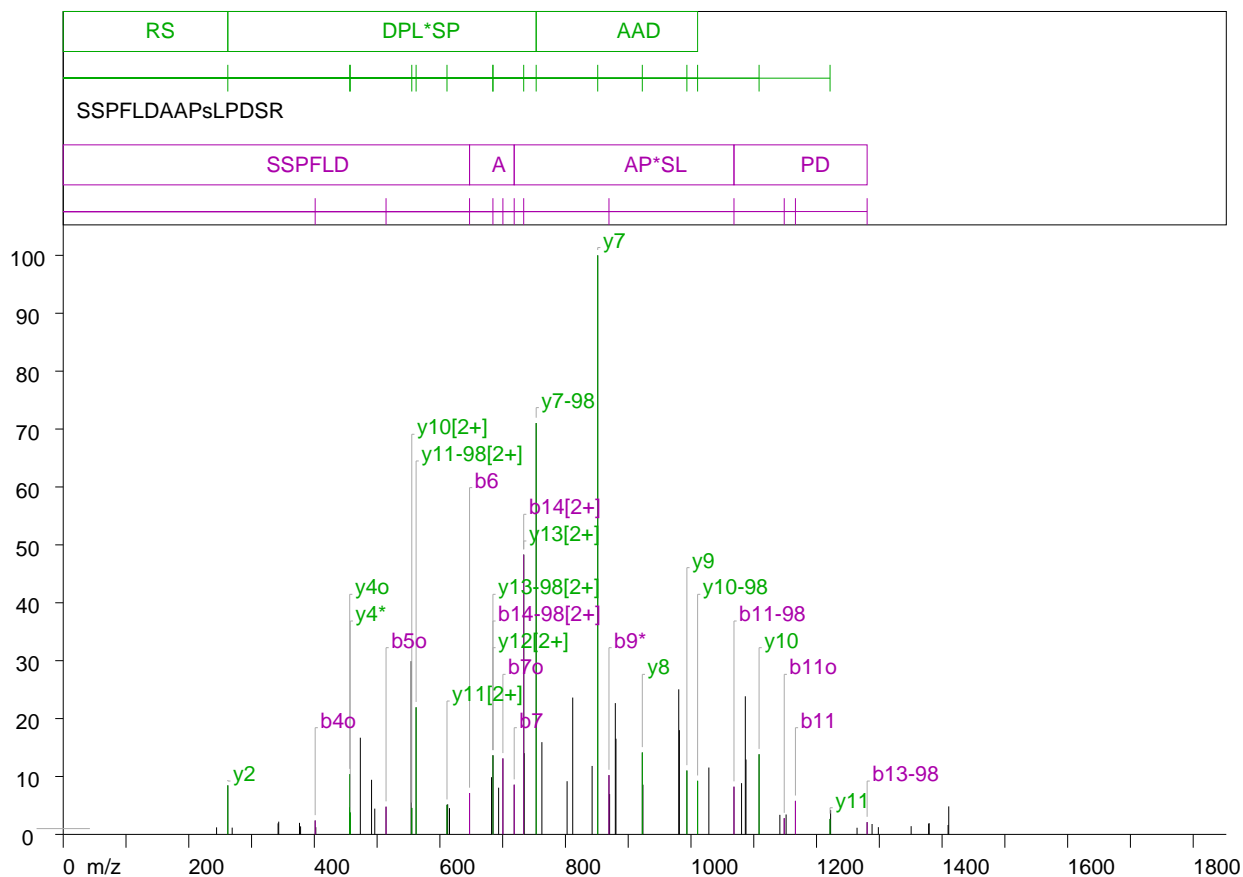
m/z	Intensity	% max	Assignment (delta)
245.188	72.19 <sub>,</sub>	1.62	z2 (0.06) : y2* (0.06)
262.171	1149.65 <sub>,</sub>	25.84	y2 (0.01)
263.223	155.51 <sub>,</sub>	3.49	
281.465	46.40 <sub>,</sub>	1.04	
297.284	63.23 <sub>,</sub>	1.42	b5o[2+] (-0.33)
300.223	46.77 <sub>,</sub>	1.05	
360.309	101.32 <sub>,</sub>	2.27	y3* (0.15) : z3 (0.15)
383.317	77.43 <sub>,</sub>	1.74	
390.531	50.53 <sub>,</sub>	1.13	b7o[2+] (-0.12)
396.301	60.82 <sub>,</sub>	1.36	
401.419	94.77 <sub>,</sub>	2.13	b4-98 (0.24)
414.205	184.76 <sub>,</sub>	4.15	
473.241	357.38 <sub>,</sub>	8.03	
474.263	2032.17 <sub>,</sub>	45.68	y4 (0.03) : b9o[2+] (-0.43)
475.258	452.57 <sub>,</sub>	10.17	b9*[2+] (0.06)
491.207	360.87 <sub>,</sub>	8.11	
496.217	549.27 <sub>,</sub>	12.34	
514.166	427.08 <sub>,</sub>	9.60	b5-98 (-0.09)
544.348	266.79 <sub>,</sub>	5.99	
562.145	883.28 <sub>,</sub>	19.85	y11o[2+] (-0.14)
584.301	192.65 <sub>,</sub>	4.33	a5 (0.05)
587.303	257.42 <sub>,</sub>	5.78	y5 (-0.01)
596.232	200.96 <sub>,</sub>	4.51	
611.317	493.06 <sub>,</sub>	11.08	
668.425	297.39 <sub>,</sub>	6.68	
674.370	282.41 <sub>,</sub>	6.34	y6 (0.02)
682.380	1046.73 <sub>,</sub>	23.53	a6* (0.13)

693.595	1944.31 <sub>3</sub>	43.71	y13[2+] (0.23)
694.401	344.34 <sub>3</sub>	7.74	
700.423	345.70 <sub>3</sub>	7.77	b7-98 (0.10)
727.344	554.14 <sub>3</sub>	12.45	b6 (0.07)
753.378	4448.10 <sub>3</sub>	100	a7* (0.09) : y7o (-0.01)
762.495	1290.13 <sub>3</sub>	29.00	
802.504	436.06 <sub>3</sub>	9.80	
808.373	480.88 <sub>3</sub>	10.81	
811.522	1088.08 <sub>3</sub>	24.46	
842.474	1888.53 <sub>3</sub>	42.45	y8 (0.03)
843.407	668.76 <sub>3</sub>	15.03	
851.363	455.43 <sub>3</sub>	10.23	b8o (0.02)
869.357	1910.45 <sub>3</sub>	42.94	b8 (0.01)
880.408	1259.92 <sub>3</sub>	28.32	
913.483	1443.23 <sub>3</sub>	32.44	y9 (0.00)
957.700	213.25 <sub>3</sub>	4.79	
958.673	186.04 <sub>3</sub>	4.18	
963.438	317.00 <sub>3</sub>	7.12	
980.463	396.05 <sub>3</sub>	8.90	
981.491	1043.78 <sub>3</sub>	23.46	
1028.515	2259.08 <sub>3</sub>	50.78	y10 (0.01)
1032.537	298.46 <sub>3</sub>	6.70	
1050.473	353.62 <sub>3</sub>	7.94	
1051.514	270.13 <sub>3</sub>	6.07	
1077.778	306.95 <sub>3</sub>	6.90	
1080.549	242.91 <sub>3</sub>	5.46	
1091.476	189.76 <sub>3</sub>	4.26	
1141.582	387.85 <sub>3</sub>	8.71	y11 (-0.00)
1145.253	134.39 <sub>3</sub>	3.02	
1148.371	709.10 <sub>3</sub>	15.94	b11o (-0.13)
1149.499	269.85 <sub>3</sub>	6.06	b11* (0.01)
1165.174	143.17 <sub>3</sub>	3.21	b12-98 (-0.40)
1166.452	1097.86 <sub>3</sub>	24.68	b11 (-0.06)
1280.573	119.73 <sub>3</sub>	2.69	c12 (-0.01) : b13-98 (-0.03)
1288.637	47.79 <sub>3</sub>	1.07	y12 (-0.01)
1289.775	100.96 <sub>3</sub>	2.26	
1377.618	85.60 <sub>3</sub>	1.92	
1378.631	302.57 <sub>3</sub>	6.80	b13 (0.03)
1379.751	149.71 <sub>3</sub>	3.36	
1380.551	97.95 <sub>3</sub>	2.20	
1385.505	78.45 <sub>3</sub>	1.76	y13 (-0.20)
1410.664	144.14 <sub>3</sub>	3.24	
1466.623	48.76 <sub>3</sub>	1.09	

**S1099**

# ProPhosSI MS/MS report

Mass: 820.370796 Charge: 2+



## Cav3.2 human

(38) 1090 SSPFLDAAPsLPDSR 1104 1638.729 (-0.0031) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
10	(1099)	Phospho (ST)	b7=>b11-98, y2=>y7-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	7 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b7 to b11-98, transition y2 to y7-98 support unique phosphorylation at position 10  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	3/3	NOTE: S-P is a low abundance fragmentation. PASS: y13-98> y12-98  No proline ions at b3  PASS: y7-98> y6-98  No proline ions at b9  No proline ions at y4 PASS: b12-98< b11-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 851.403: intensity: 15912.13) assigned 1 times ion 2 (mass: 753.419: intensity: 11302.72) assigned 1 times ion 3 (mass: 733.522: intensity: 7687.09) assigned 2 times ion 4 (mass: 554.161: intensity: 4761.32) assigned 0 times ion 5 (mass: 980.488: intensity: 3986.59) assigned 0 times ion 6 (mass: 1086.551: intensity: 3795.36) assigned 0 times ion 7 (mass: 811.627: intensity: 3760.08) assigned 0 times ion 8 (mass: 879.466: intensity: 3607.78) assigned 1 times ion 9 (mass: 562.127: intensity: 3492.93) assigned 1 times ion 10 (mass: 981.505: intensity: 2864.99) assigned 0 times

## Ion Table

27 ions assigned of 53 ions above threshold (50%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
S	1	88.039	71.013	-	70.029
S	2	175.071	158.045	-	157.061
P	3	272.124	255.098	-	254.114
F	4	419.193	402.166	-	401.182 401.343 (2)
L	5	532.277	515.250	-	514.266 514.245 (4)
D	6	647.304 647.283 (7)	630.277	-	629.293
A	7	718.341 718.383 (8)	701.314	-	700.330 700.366 (13)
A	8	789.378	772.351	-	771.367
P	9	886.431	869.404 869.368 (10)	-	868.420
s	10	1053.429	1036.402	955.443	1035.418
L	11	1166.513 1166.388 (5)	1149.486	1068.527 1068.497 (8)	1148.502 1148.528 (2)
P	12	1263.566	1246.539	1165.580	1245.555
D	13	1378.593	1361.566	1280.607 *1280.596 (2)	1360.582
S	14	1465.625 *733.522 [2+] (48)	1448.598	1367.639 *684.502 [2+] (13)	1447.614
R	15	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
S	15	-	-	-	-
S	14	1552.704	1535.678	1454.719	1534.694
P	13	1465.672 *733.522 [2+] (48)	1448.646	1367.686 *684.502 [2+] (13)	1447.662
F	12	1368.620 *684.502 [2+] (13)	1351.593	1270.634	1350.609
L	11	1221.551 611.321 [2+] (5) 1221.510 (2)	1204.525	1123.565 562.127 [2+] (21)	1203.541
D	10	1108.467 1108.467 (13) 555.233 [2+] (4)	1091.441	1010.481 1010.552 (9)	1090.457
A	9	993.440 993.475 (11)	976.414	895.454	975.430
A	8	922.403 922.439 (14)	905.377	824.417	904.392
P	7	851.366 851.403 (100)	834.339	753.380 753.419 (71)	833.355
s	6	754.313	737.287	656.327	736.303
L	5	587.315	570.288	-	569.304
P	4	474.231	457.204 *457.270 (3)	-	456.220 456.369 (10)
D	3	377.178	360.151	-	359.167
S	2	262.151 262.178 (8)	245.124	-	244.140
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	82	35	42
0.5	73	33	45
1	66	32	48
2	53	27	50
3	48	23	47
4	45	22	48
5	39	19	48
10	24	12	50

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
244.280	193.27 <sub>3</sub>	1.21	a3 (0.15) : a5*[2+] (0.14) : y2o (0.13)
262.178	1347.60 <sub>3</sub>	8.46	y2 (0.02)
269.135	185.93 <sub>3</sub>	1.16	
342.246	304.13 <sub>3</sub>	1.91	
343.269	350.54 <sub>3</sub>	2.20	
376.378	317.03 <sub>3</sub>	1.99	
378.093	220.72 <sub>3</sub>	1.38	y6[2+] (0.43)
401.343	382.59 <sub>3</sub>	2.40	b4o (0.16)
402.374	197.44 <sub>3</sub>	1.24	b4* (0.20)
456.369	1654.21 <sub>3</sub>	10.39	y4o (0.14)
457.270	599.65 <sub>3</sub>	3.76	y4* (0.06) : z4 (0.06)
473.262	2657.00 <sub>3</sub>	16.69	
491.175	1500.34 <sub>3</sub>	9.42	
496.256	708.35 <sub>3</sub>	4.45	
514.245	761.25 <sub>3</sub>	4.78	b5o (-0.02)
554.161	4761.32 <sub>3</sub>	29.92	
555.233	727.69 <sub>3</sub>	4.57	y10[2+] (0.49)
562.127	3492.93 <sub>3</sub>	21.95	y11-98[2+] (-0.15)
611.321	813.27 <sub>3</sub>	5.11	y11[2+] (0.04)
612.437	826.51 <sub>3</sub>	5.19	
615.331	721.95 <sub>3</sub>	4.53	x5 (0.02)
647.283	1136.44 <sub>3</sub>	7.14	b6 (-0.02)
682.293	1572.74 <sub>3</sub>	9.88	
684.502	2170.33 <sub>3</sub>	13.63	b14-98[2+] (0.17) : y13-98[2+] (0.15) : y12[2+] (-0.31)
693.565	1283.80 <sub>3</sub>	8.06	
700.366	2087.74 <sub>3</sub>	13.12	b7o (0.03)
718.383	1365.90 <sub>3</sub>	8.58	b7 (0.04)
733.522	7687.09 <sub>3</sub>	48.30	b14[2+] (0.20) : y13[2+] (0.18)

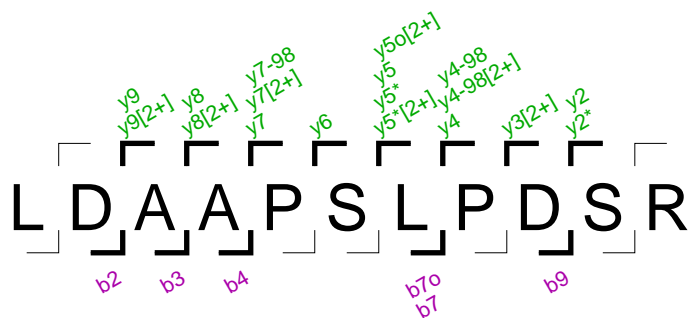
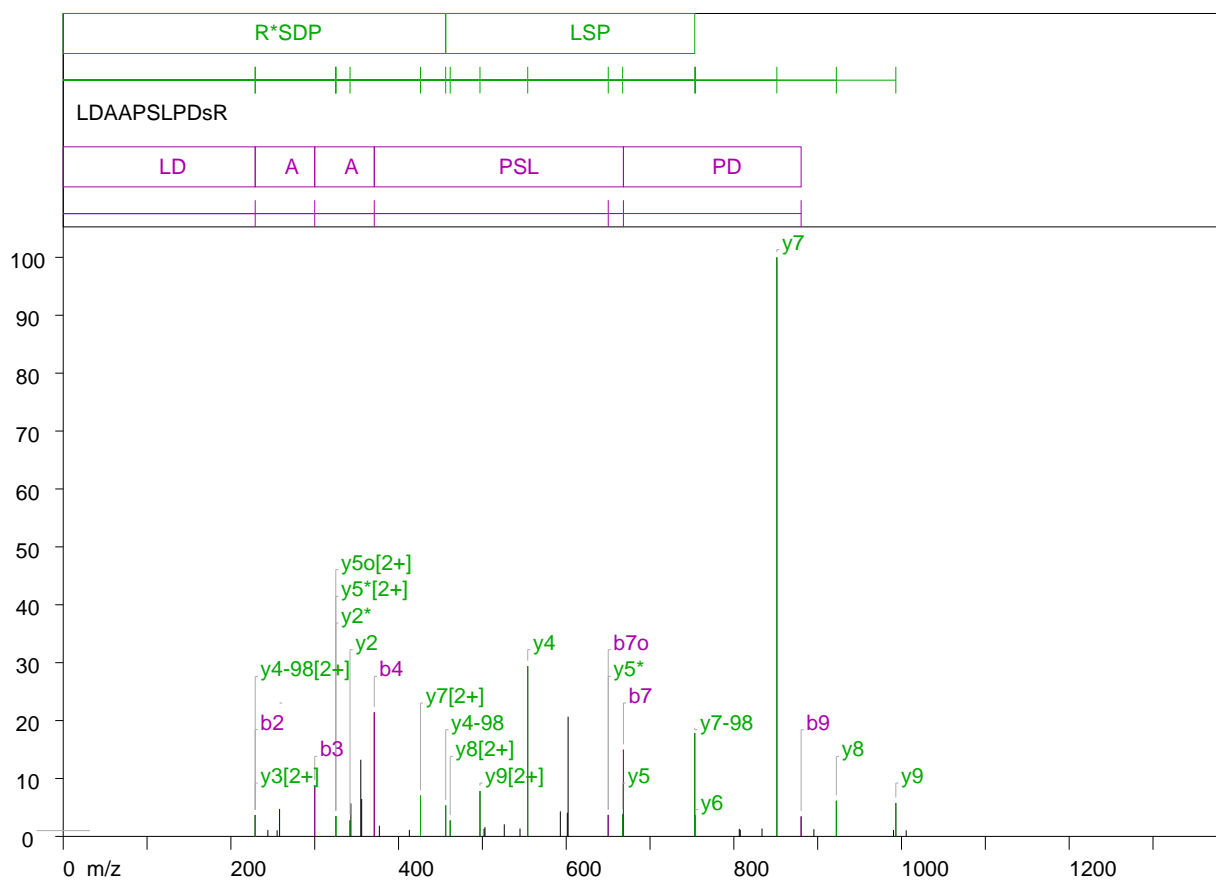
734.373	2232.21,	14.02	
753.419	11302.72,	71.03	y7-98 (0.03)
762.473	2534.99,	15.93	
802.622	1461.56,	9.18	
811.627	3760.08,	23.63	
842.484	1881.19,	11.82	
851.403	15912.13,	100	y7 (0.03)
869.368	1628.81,	10.23	b9* (-0.03)
870.388	1107.95,	6.96	
879.466	3607.78,	22.67	x7 (0.10)
880.479	2629.46,	16.52	
922.439	2251.43,	14.14	y8 (0.03)
923.433	1365.80,	8.58	
980.488	3986.59,	25.05	
981.505	2864.99,	18.00	
993.475	1755.16,	11.03	y9 (0.03)
1010.552	1472.26,	9.25	y10-98 (0.07)
1028.472	1837.59,	11.54	
1068.497	1310.98,	8.23	b11-98 (-0.03)
1080.558	1408.58,	8.85	
1086.551	3795.36,	23.85	
1087.614	2057.42,	12.92	
1108.467	2202.03,	13.83	y10 (-0.00)
1141.578	537.55,	3.37	
1148.528	445.63,	2.80	b11o (0.02)
1151.528	547.09,	3.43	
1166.388	920.72,	5.78	b11 (-0.12)
1221.510	425.04,	2.67	y11 (-0.04)
1222.438	668.55,	4.20	
1264.525	182.87,	1.14	
1280.596	336.83,	2.11	c12 (0.00) : b13-98 (-0.01)
1288.455	285.62,	1.79	
1298.497	198.77,	1.24	
1350.686	226.14,	1.42	a13 (0.08) : y12o (0.07)
1378.515	296.58,	1.86	b13 (-0.07)
1379.457	307.39,	1.93	
1409.547	258.38,	1.62	
1410.612	769.59,	4.83	



**S1103**

# ProPhosSI MS/MS report

Mass: 611.279660 Charge: 2+



## Cav3.2 human

(56) 1094 LDAAPSLPDsR 1104 1220.543 (-0.0001) Da

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
10	(1103)	Phospho (ST)	y4, y4-98

### Spectrum interpretation

Rule	passed/tests	Description
Three -98 Ions present	0/1	2 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	No transitions found to support unique phosphorylation at position 10  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	4/4	PASS: y7-98> y6-98  PASS: b5< b4  PASS: y4-98> y3-98  PASS: b8< b7 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 851.279: intensity: 9926.91) assigned 1 times ion 2 (mass: 554.092: intensity: 2920.81) assigned 1 times ion 3 (mass: 371.042: intensity: 2127.39) assigned 1 times ion 4 (mass: 602.276: intensity: 2051.59) assigned 0 times ion 5 (mass: 753.348: intensity: 1769.80) assigned 1 times ion 6 (mass: 668.271: intensity: 1486.68) assigned 1 times ion 7 (mass: 354.969: intensity: 1314.13) assigned 0 times ion 8 (mass: 300.010: intensity: 874.24) assigned 1 times ion 9 (mass: 497.144: intensity: 776.58) assigned 1 times ion 10 (mass: 426.203: intensity: 700.53) assigned 1 times

### Ion Table

21 ions assigned of 27 ions above threshold (77%).

#### N-terminal ions

AA	N-ion	b	b*	b-98	bo
L	1	114.091	97.065	-	96.081
D	2	229.118 *229.031 (3)	212.092	-	211.108

A	3	300.155 300.010 (8)	283.129	-	282.145
A	4	371.193 371.042 (21)	354.166	-	353.182
P	5	468.245	451.219	-	450.235
S	6	555.277	538.251	-	537.267
L	7	668.361 668.271 (14)	651.335	-	650.351 *650.142 (3)
P	8	765.414	748.388	-	747.404
D	9	880.441 880.236 (3)	863.415	-	862.431
s	10	1047.440	1030.413	949.454	1029.429
R	11	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
L	11	-	-	-	-
D	10	1108.467	1091.441	1010.481	1090.457
A	9	993.440 497.144 [2+] (7) 993.222 (5)	976.414	895.454	975.430
A	8	922.403 461.640 [2+] (2) 922.271 (6)	905.377	824.417	904.392
P	7	851.366 851.279 (100) 426.203 [2+] (7)	834.339	753.380 753.348 (17)	833.355
S	6	754.313 754.271 (3)	737.287	656.327	736.303
L	5	667.281 667.349 (3)	650.255 *325.153 [2+] (3) *650.142 (3)	569.295	649.271 *325.153 [2+] (3)
P	4	554.197 554.092 (29)	537.171	456.211 *229.031 [2+] (3) 456.270 (5)	536.186
D	3	457.144 *229.031 [2+] (3)	440.118	359.158	439.134
s	2	342.117 342.121 (2)	325.091 *325.153 (3)	244.131	324.107
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	61	31	50
0.5	51	30	58
1	40	27	67
2	27	20	74
3	24	18	75
4	18	12	66
5	15	12	80
10	7	5	71

Observed ions > 1%

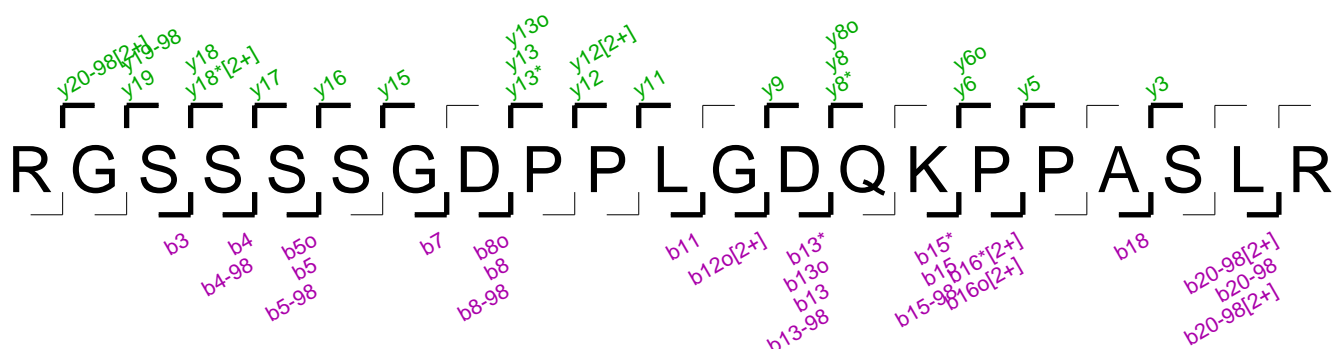
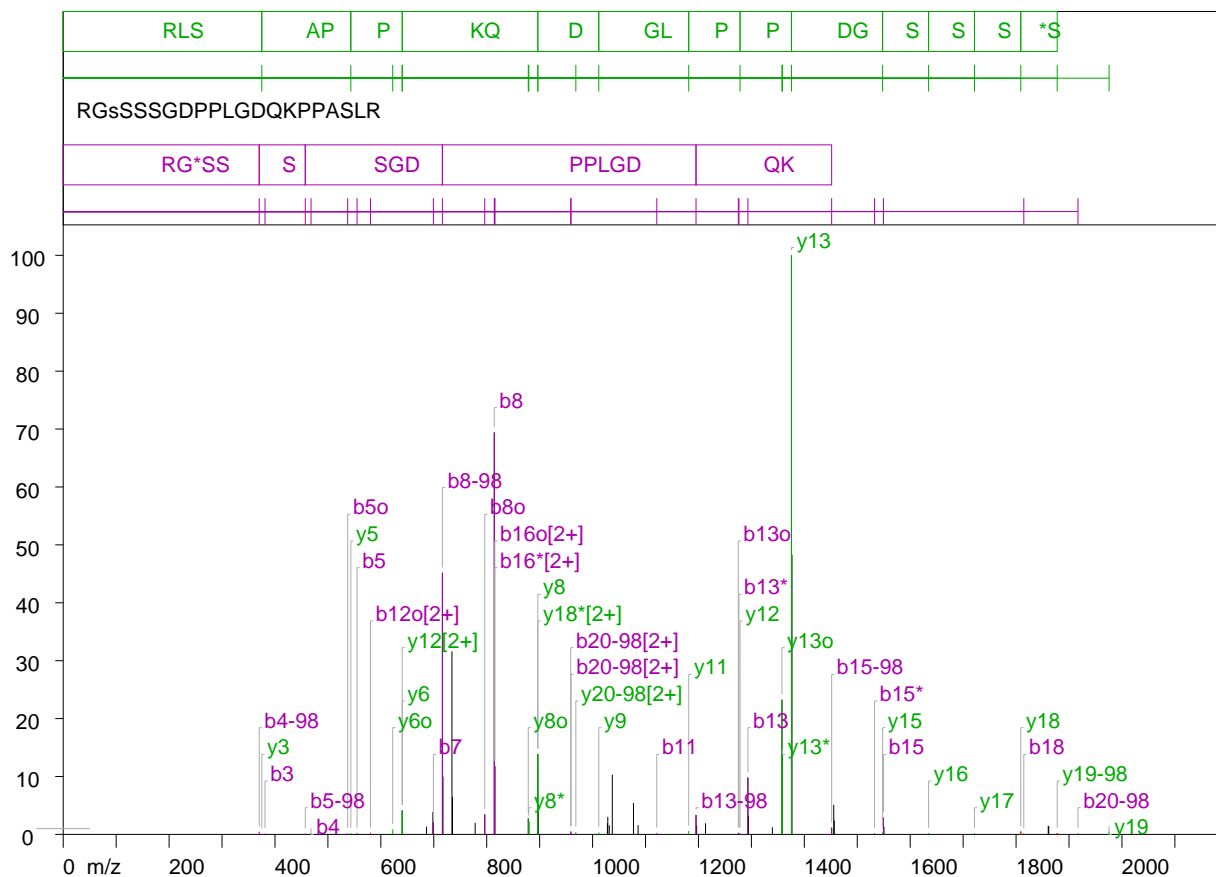
m/z	Intensity	% max	Assignment (delta)
229.031	366.23 <sub>2</sub>	3.68	y4-98[2+] (0.42) : y3[2+] (-0.04) : b2 (-0.08)
244.113	108.18 <sub>2</sub>	1.08	y2-98 (-0.01)
255.146	104.79 <sub>2</sub>	1.05	a3* (0.01) : a6o[2+] (0.00) : a6*[2+] (-0.48)
258.032	469.91 <sub>2</sub>	4.73	
300.010	874.24 <sub>2</sub>	8.80	b3 (-0.14)
325.153	348.85 <sub>2</sub>	3.51	y2* (0.06) : z2 (0.06) : y5o[2+] (0.01) : a4o (-0.03) : y5*[2+] (-0.47) : z5[2+] (-0.47)
342.121	275.15 <sub>2</sub>	2.77	y2 (0.00)
343.165	564.71 <sub>2</sub>	5.68	c7[2+] (-0.03) : a4 (-0.03)
354.969	1314.13 <sub>2</sub>	13.23	
356.004	640.35 <sub>2</sub>	6.45	
371.042	2127.39 <sub>2</sub>	21.43	b4 (-0.15)
377.128	182.54 <sub>2</sub>	1.83	y7-98[2+] (-0.06)
412.896	112.07 <sub>2</sub>	1.12	y8-98[2+] (0.18)
426.203	700.53 <sub>2</sub>	7.05	y7[2+] (0.01)
456.270	530.96 <sub>2</sub>	5.34	y4-98 (0.05)
461.640	274.02 <sub>2</sub>	2.76	y8[2+] (-0.06)
497.144	776.58 <sub>2</sub>	7.82	y9[2+] (-0.08)
502.013	131.22 <sub>2</sub>	1.32	a10*[2+] (0.29)
503.085	158.44 <sub>2</sub>	1.59	
526.127	206.51 <sub>2</sub>	2.08	
544.891	135.01 <sub>2</sub>	1.36	
554.092	2920.81 <sub>2</sub>	29.42	y4 (-0.10)
593.009	429.02 <sub>2</sub>	4.32	
601.323	405.76 <sub>2</sub>	4.08	
602.276	2051.59 <sub>2</sub>	20.66	
650.142	368.46 <sub>2</sub>	3.71	y5* (-0.11) : z5 (-0.11) : b7o (-0.20)
667.349	379.11 <sub>2</sub>	3.81	y5 (0.06)
668.271	1486.68 <sub>2</sub>	14.97	b7 (-0.09)
753.348	1769.80 <sub>2</sub>	17.82	y7-98 (-0.03)
754.271	358.77 <sub>2</sub>	3.61	y6 (-0.04)
806.461	130.79 <sub>2</sub>	1.31	
807.629	112.60 <sub>2</sub>	1.13	
833.584	135.39 <sub>2</sub>	1.36	y7o (0.22)
851.279	9926.91 <sub>2</sub>	100	y7 (-0.08)
880.236	343.51 <sub>2</sub>	3.46	b9 (-0.20)
895.457	123.47 <sub>2</sub>	1.24	y9-98 (0.00)
922.271	610.92 <sub>2</sub>	6.15	y8 (-0.13)
990.458	110.73 <sub>2</sub>	1.11	
993.222	573.22 <sub>2</sub>	5.77	y9 (-0.21)

1005.566	104.06,	1.04	
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**S1107**

# ProPhosSI MS/MS report

Mass: 1095.022710 Charge: 2+





## Cav3.2 human

(66) 1105 RGsSSSGDPPLGDQKPPASLR 1125 2188.027 (0.0023) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(1107)	Phospho (ST)	y18 => y19-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y18 to y19-98 support unique phosphorylation at position 3  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y15 to y18.
Five of six sequential ions present	1/1	Five of Six ions found between y8 and y13 Five of Six ions found between y11 and y16 Five of Six ions found between y12 and y17 Five of Six ions found between y13 and y18 Five of Six ions found between y14 and y19 Five of Six ions found between y15 and y20 Five of Six ions found between y16 and y21
Proline directed fragmentation pattern	6/6	PASS: y13> y12 with ratio 24.1  PASS: b9-98< b8-98  NOTE: P-P is a low abundance fragmentation. PASS: y12> y11 with ratio 6.99  No proline ions at b10-98  PASS: y6> y5 with ratio 18.3  PASS: b16-98< b15-98  NOTE: P-P is a low abundance fragmentation. PASS: y5> y4  No proline ions at b17-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	8/6	ion 1 (mass: 1375.692: intensity: 74137.06) assigned 2 times ion 2 (mass: 814.274: intensity: 51469.17) assigned 1 times ion 3 (mass: 1376.672: intensity: 35805.56) assigned 1 times ion 4 (mass: 716.312: intensity: 33505.55) assigned 2 times ion 5 (mass: 734.313: intensity: 23422.12) assigned 0 times ion 6 (mass: 1357.686: intensity: 17255.10) assigned 1 times ion 7 (mass: 896.550: intensity:

-	-	10289.16) assigned 3 times ion 8 (mass: 1358.679: intensity: 10183.16) assigned 2 times ion 9 (mass: 815.242: intensity: 8738.66) assigned 2 times ion 10 (mass: 1037.250: intensity: 7652.21) assigned 0 times
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## Ion Table

47 ions assigned of 94 ions above threshold (50%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
R	1	157.108	140.082	-	139.098
G	2	214.130	197.103	-	196.119
s	3	381.128 381.170 (0)	364.102	283.142	363.118
S	4	468.160 468.126 (0)	451.134	370.174 370.248 (0)	450.150
S	5	555.192 555.077 (0)	538.166	457.206 457.278 (0)	537.182 537.349 (0)
S	6	642.224	625.198	544.238	624.214
G	7	699.246 699.257 (2)	682.219	601.260	681.235
D	8	814.273 814.274 (69)	797.246	716.287 *716.312 (45)	796.262 *796.299 (3)
P	9	911.326	894.299	813.340	893.315
P	10	1008.378	991.352	910.392	990.368
L	11	1121.462 1121.302 (0)	1104.436	1023.476	1103.452
G	12	1178.484	1161.457	1080.498	1160.473 580.411 [2+] (0)
D	13	1293.511 1293.385 (9)	1276.484 1276.459 (0)	1195.525 *1195.420 (3)	1275.500 1275.293 (0)
Q	14	1421.569	1404.543	1323.583	1403.559
K	15	1549.664 1549.451 (2)	1532.638 1532.625 (0)	1451.678 1451.637 (1)	1531.654
P	16	1646.717	1629.691 *815.242 [2+] (11)	1548.731	1628.707 *815.242 [2+] (11)
P	17	1743.770	1726.743	1645.784	1725.759
A	18	1814.807 1814.615 (0)	1797.780	1716.821	1796.796
S	19	1901.839	1884.812	1803.853	1883.828
L	20	2014.923	1997.897	1916.937 959.383 [2+] (0) 1916.973 (0) 958.633 [2+] (0)	1996.913
R	21	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
R	21	-	-	-	-
G	20	2032.934	2015.907	1934.948 968.378 [2+] (0)	2014.923
s	19	1975.912 1975.741 (0)	1958.886	1877.926 1877.688 (0)	1957.902
S	18	1808.914 1808.903 (0)	1791.887 *896.550 [2+] (13)	-	1790.903

S	17	1721.882 1721.433 (0)	1704.855	-	1703.871
S	16	1634.850 1634.745 (0)	1617.823	-	1616.839
G	15	1547.818 1547.851 (0)	1530.791	-	1529.807
D	14	1490.796	1473.770	-	1472.786
P	13	1375.769 *1375.692 (100)	1358.743 *1358.679 (13)	-	1357.759 1357.686 (23)
P	12	1278.717 1278.613 (0) *640.354 [2+] (4)	1261.690	-	1260.706
L	11	1181.664 1181.580 (0)	1164.637	-	1163.653
G	10	1068.580	1051.553	-	1050.569
D	9	1011.558 1011.682 (0)	994.532	-	993.548
Q	8	896.531 *896.550 (13)	879.505 *879.531 (2)	-	878.521 878.534 (2)
K	7	768.473	751.446	-	750.462
P	6	640.378 *640.354 (4)	623.351	-	622.367 622.416 (0)
P	5	543.325 543.330 (0)	526.298	-	525.314
A	4	446.272	429.246	-	428.262
S	3	375.235 375.133 (0)	358.209	-	357.225
L	2	288.203	271.177	-	270.193
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	102	52	50
0.5	50	22	44
1	39	17	43
2	27	16	59
3	22	12	54
4	16	10	62
5	15	9	60
10	10	8	80

### Observed ions > 1%

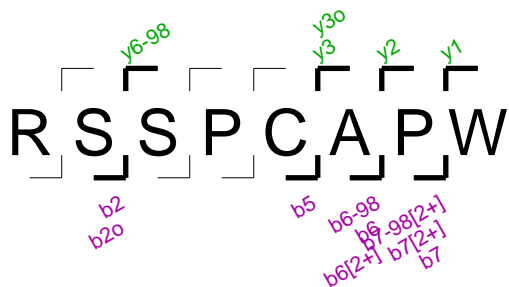
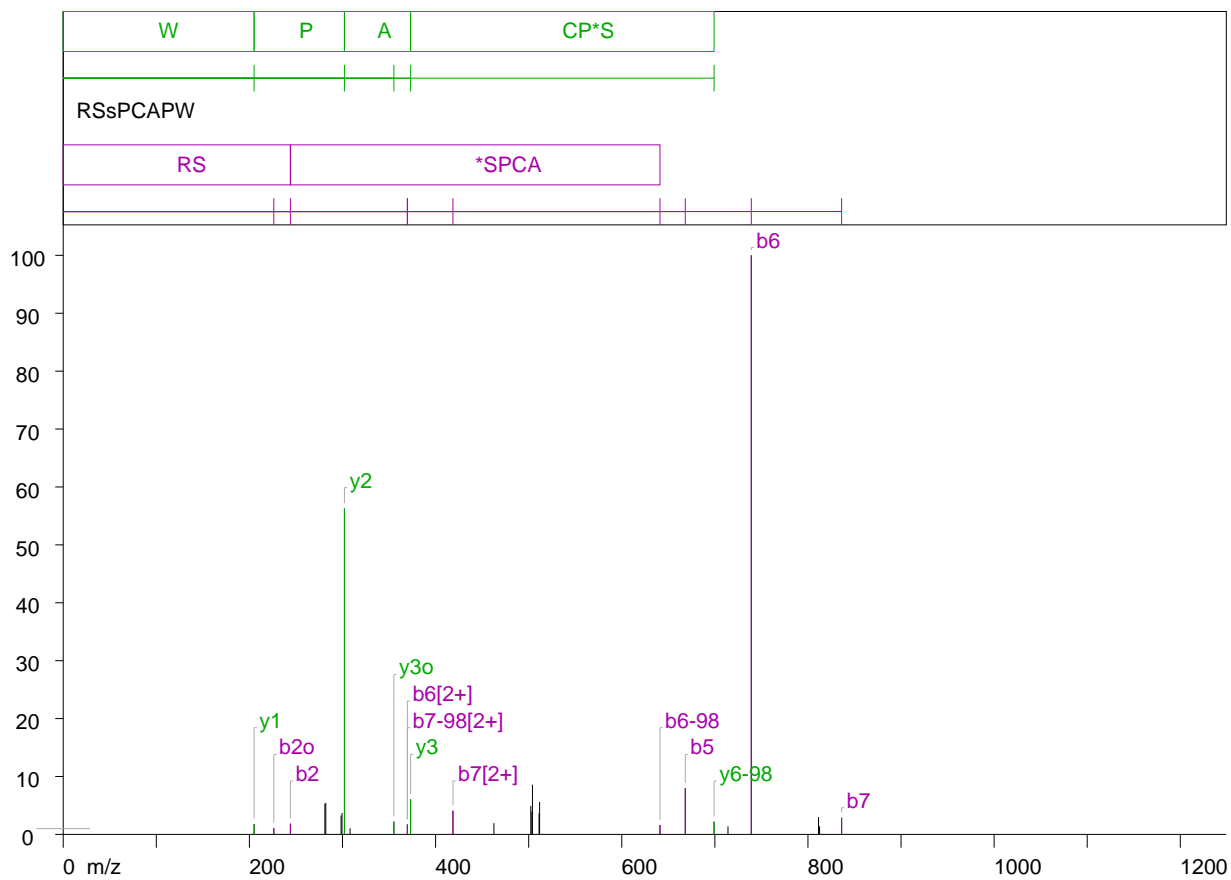
m/z	Intensity	% max	Assignment (delta)
640.354	3074.68 <sub>3</sub>	4.14	y12[2+] (0.49) : y6 (-0.02)
686.318	997.27 <sub>3</sub>	1.34	
698.309	2862.12 <sub>3</sub>	3.86	
699.257	1532.73 <sub>3</sub>	2.06	b7 (0.01)
716.312	33505.55 <sub>3</sub>	45.19	c7 (0.03) : b8-98 (0.02)
717.346	7390.99 <sub>3</sub>	9.96	

734.313	23422.12,	31.59	
735.321	4797.41,	6.47	
778.229	1481.67,	1.99	
796.299	2564.83,	3.45	b8o (0.03) : x7 (-0.16)
814.274	51469.17,	69.42	b8 (0.00)
815.242	8738.66,	11.78	b16o[2+] (0.38) : b16*[2+] (-0.10)
878.534	2063.07,	2.78	y8o (0.01)
879.531	1675.18,	2.25	z8 (0.02) : y8* (0.02)
896.550	10289.16,	13.87	y18*[2+] (0.10) : z18[2+] (0.10) : y8 (0.01)
897.548	2858.33,	3.85	
1027.973	1431.40,	1.93	
1028.720	2238.59,	3.01	
1031.478	1165.53,	1.57	
1037.250	7652.21,	10.32	
1077.271	4016.63,	5.41	
1085.971	1186.98,	1.60	
1195.420	2486.71,	3.35	c12 (-0.09) : b13-98 (-0.10)
1196.551	1166.91,	1.57	
1213.416	1431.46,	1.93	
1293.385	7280.45,	9.82	b13 (-0.12)
1294.536	2371.57,	3.19	
1339.615	909.02,	1.22	
1357.686	17255.10,	23.27	y13o (-0.07)
1358.679	10183.16,	13.73	y13* (-0.06) : z13 (-0.06)
1375.692	74137.06,	100	a14o (0.12) : y13 (-0.07)
1376.672	35805.56,	48.29	a14* (0.12)
1451.637	872.02,	1.17	b15-98 (-0.04)
1455.540	3789.15,	5.11	
1456.557	1772.03,	2.39	
1549.451	2145.78,	2.89	b15 (-0.21)
1550.478	975.17,	1.31	
1860.735	1091.72,	1.47	
1861.714	1070.63,	1.44	

**S1127**

# ProPhosSI MS/MS report

Mass: 520.704584 Charge: 2+



## Cav3.2 human

(21) 1125 RSsPCAPW 1132 1039.394 (-0.0011) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(1127)	Phospho (ST)	b2=> b6-98, y3 =>y6-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	3 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b2 to b6-98, transition y3 to y6-98 support unique phosphorylation at position 3  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	1/2	NOTE: S-P is a low abundance fragmentation. No proline ions at y5 No proline ions at b4-98  PASS: y2> y1 with ratio 31.4  FAIL: b7-98> b6-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	6/6	ion 1 (mass: 739.153: intensity: 17008.86) assigned 1 times ion 2 (mass: 302.071: intensity: 9572.42) assigned 1 times ion 3 (mass: 504.044: intensity: 1460.20) assigned 0 times ion 4 (mass: 668.235: intensity: 1358.14) assigned 1 times ion 5 (mass: 373.149: intensity: 1027.54) assigned 1 times ion 6 (mass: 511.772: intensity: 951.29) assigned 0 times ion 7 (mass: 282.061: intensity: 925.13) assigned 0 times ion 8 (mass: 281.086: intensity: 902.76) assigned 1 times ion 9 (mass: 502.264: intensity: 837.64) assigned 0 times ion 10 (mass: 418.629: intensity: 696.96) assigned 1 times

## Ion Table

15 ions assigned of 27 ions above threshold (55%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
R	1	157.108	140.082	-	139.098
S	2	244.140 244.038 (1)	227.114	-	226.130 226.218 (1)

s	3	411.139	394.112	313.153	393.128
P	4	508.192	491.165	410.206	490.181
C	5	668.222 668.235 (7)	651.196	570.236	650.212
A	6	739.259 739.153 (100) *369.697 [2+] (1)	722.233	641.273 641.048 (1)	721.249
P	7	836.312 418.629 [2+] (4) 836.187 (2)	819.286	738.326 *369.697 [2+] (1)	818.302
W	8	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
R	8	-	-	-	-
S	7	884.301	867.274	786.315	866.290
s	6	797.269	780.242	699.283 699.183 (2)	779.258
P	5	630.271	613.244	-	612.260
C	4	533.218	516.191	-	515.207
A	3	373.187 373.149 (6)	356.161	-	355.177 355.214 (2)
P	2	302.150 302.071 (56)	285.123	-	284.139
W	1	205.097 205.039 (1)	188.071	-	187.087

### Ion distribution

Threshold	Ion count	Matches	% matched
0	54	19	35
0.5	41	19	46
1	27	15	55
2	18	9	50
3	14	6	42
4	10	6	60
5	8	5	62
10	2	2	100

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
205.039	304.77 <sub>s</sub>	1.79	y1 (-0.05)
226.218	181.94 <sub>s</sub>	1.06	b2o (0.08)
244.038	314.37 <sub>s</sub>	1.84	b2 (-0.10)
281.086	902.76 <sub>s</sub>	5.30	x4[2+] (-0.02)
282.061	925.13 <sub>s</sub>	5.43	
298.477	553.95 <sub>s</sub>	3.25	
299.483	629.25 <sub>s</sub>	3.69	

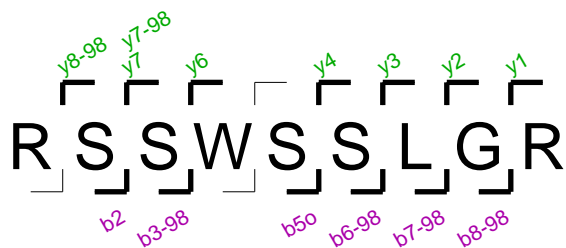
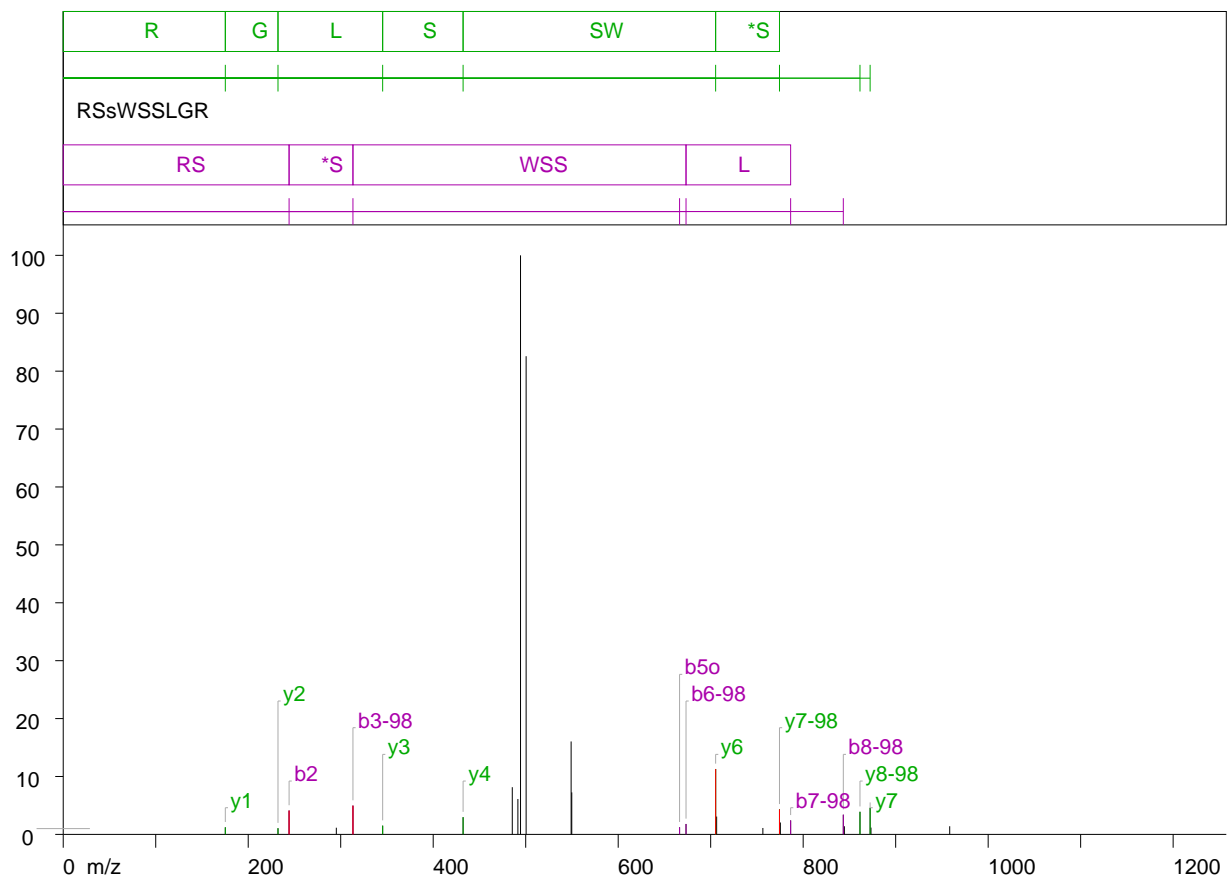


302.071	9572.42 <sub>3</sub>	56.27	y2 (-0.07)
308.117	178.28 <sub>3</sub>	1.04	
355.214	378.39 <sub>3</sub>	2.22	y3o (0.03)
369.697	289.73 <sub>3</sub>	1.70	b7-98[2+] (0.02) : b6[2+] (-0.43)
373.149	1027.54 <sub>3</sub>	6.04	y3 (-0.03)
418.629	696.96 <sub>3</sub>	4.09	b7[2+] (-0.03)
462.647	330.55 <sub>3</sub>	1.94	a4o (0.46)
502.264	837.64 <sub>3</sub>	4.92	
503.412	669.06 <sub>3</sub>	3.93	
504.044	1460.20 <sub>3</sub>	8.58	
511.137	621.62 <sub>3</sub>	3.65	
511.772	951.29 <sub>3</sub>	5.59	
641.048	276.09 <sub>3</sub>	1.62	b6-98 (-0.22)
668.235	1358.14 <sub>3</sub>	7.98	b5 (0.01)
699.183	375.89 <sub>3</sub>	2.20	y6-98 (-0.10)
714.112	236.32 <sub>3</sub>	1.38	
739.153	17008.86 <sub>3</sub>	100	b6 (-0.10)
811.339	511.32 <sub>3</sub>	3.00	
812.493	240.32 <sub>3</sub>	1.41	
836.187	489.39 <sub>3</sub>	2.87	b7 (-0.12)

**S1144**

# ProPhosSI MS/MS report

Mass: 558.253623 Charge: 2+



## Cav3.2 human

(44) 1142  $\text{RSsWSSLGR}$  1150 1114.492 (-0.0004) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(1144)	Phospho (ST)	b2 => b3-98 : y6 => y7-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	6 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b2 to b3-98, transition y6 to y7-98 support unique phosphorylation at position 3  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y1 to y4.
Five of six sequential ions present	1/1	Five of Six ions found between y1 and y6 Five of Six ions found between y2 and y7 Five of Six ions found between y3 and y8
Proline directed fragmentation pattern	0/0	
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 494.401: intensity: 58056.20) assigned 1 times ion 2 (mass: 500.456: intensity: 47943.19) assigned 0 times ion 3 (mass: 549.103: intensity: 9318.38) assigned 0 times ion 4 (mass: 705.366: intensity: 6557.82) assigned 1 times ion 5 (mass: 485.512: intensity: 4732.32) assigned 0 times ion 6 (mass: 549.801: intensity: 4211.59) assigned 0 times ion 7 (mass: 491.544: intensity: 3548.09) assigned 0 times ion 8 (mass: 313.239: intensity: 2883.58) assigned 1 times ion 9 (mass: 872.364: intensity: 2669.37) assigned 1 times ion 10 (mass: 774.388: intensity: 2506.29) assigned 1 times

## Ion Table

16 ions assigned of 27 ions above threshold (59%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
R	1	157.108	140.082	-	139.098
S	2	244.140 244.186 (4)	227.114	-	226.130
s	3	411.139	394.112	313.153 313.239 (4)	393.128
W	4	597.218	580.192	499.232	579.208
S	5	684.250	667.224	586.264	666.240 666.366 (1)
S	6	771.282	754.256	673.296 673.339 (1)	753.272
L	7	884.366	867.340	786.380 786.455 (2)	866.356
G	8	941.388	924.361	843.402 843.394 (3)	923.377
R	9	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
R	9	-	-	-	-
S	8	959.398	942.372	861.412 861.422 (3)	941.388
s	7	872.366 872.364 (4)	855.340	774.380 774.388 (4)	854.356
W	6	705.368 705.366 (11)	688.341	-	687.357
S	5	519.289	502.262	-	501.278
S	4	432.257 432.326 (2)	415.230	-	414.246
L	3	345.225 345.352 (1)	328.198	-	327.214
G	2	232.140 232.192 (1)	215.114	-	214.130
R	1	175.119 175.248 (1)	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	52	24	46
0.5	44	23	52
1	27	16	59
2	17	10	58
3	14	8	57
4	11	6	54
5	7	2	28
10	4	2	50

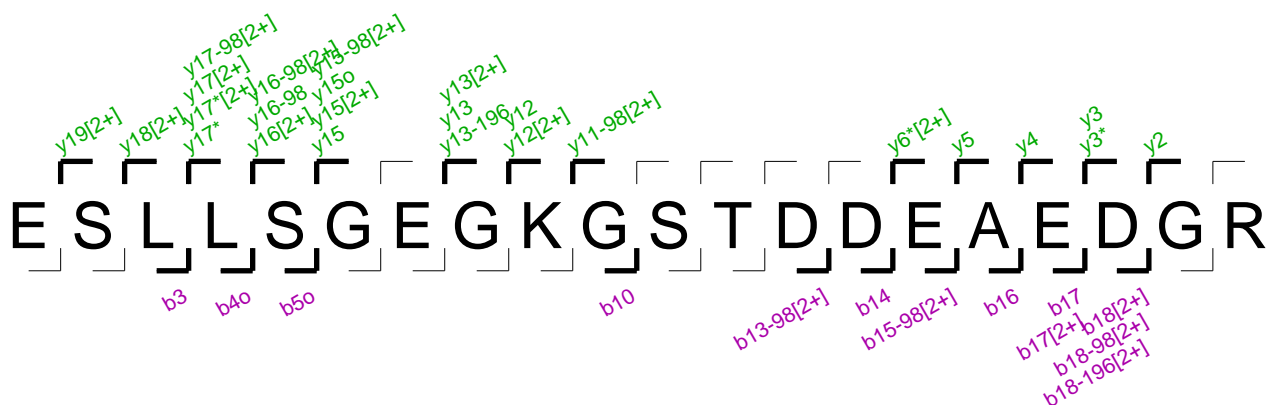
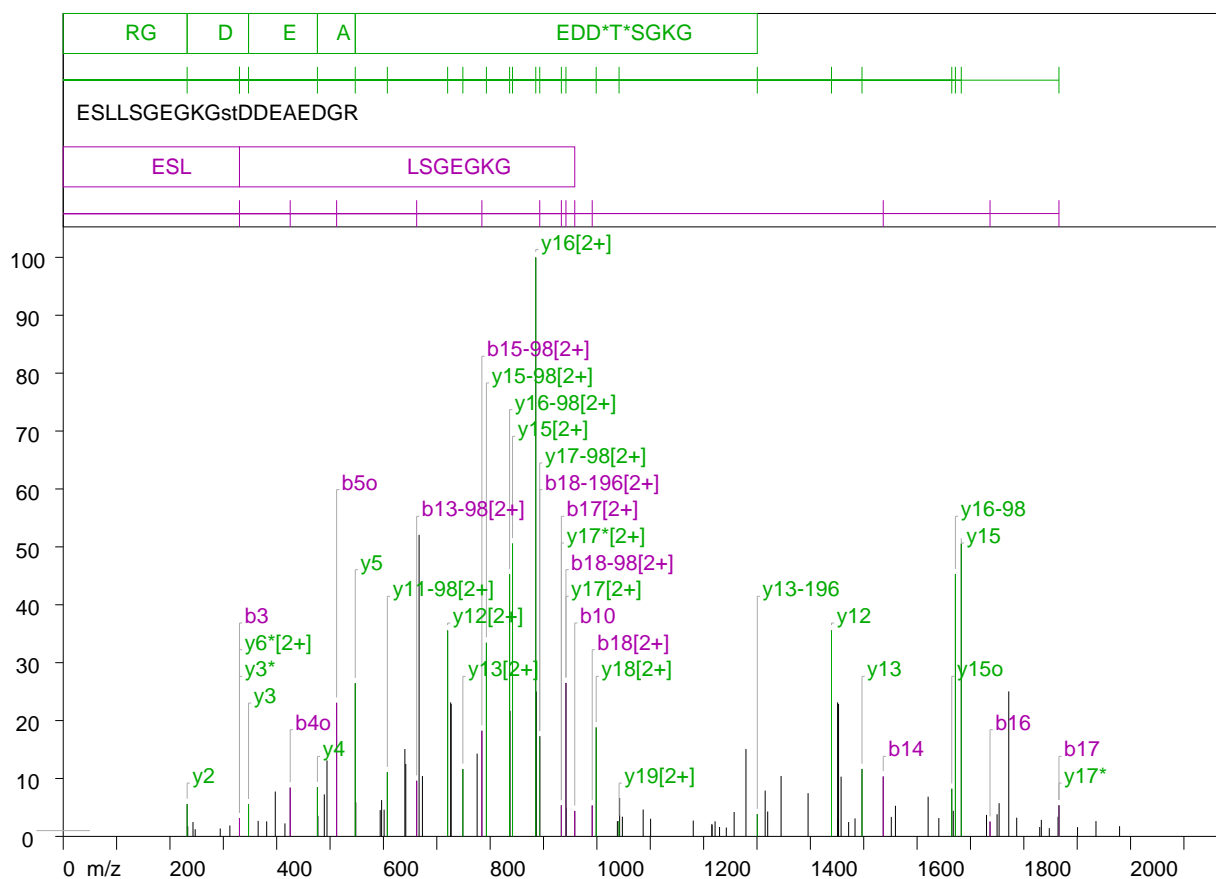
### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
175.248	709.61 <sub>3</sub>	1.22	y1 (0.12)
232.192	619.74 <sub>3</sub>	1.06	y2 (0.05)
244.186	2389.84 <sub>3</sub>	4.11	b2 (0.04)
295.273	669.73 <sub>3</sub>	1.15	
313.239	2883.58 <sub>3</sub>	4.96	b3-98 (0.08)
345.352	875.88 <sub>3</sub>	1.50	y3 (0.12)
432.326	1726.42 <sub>3</sub>	2.97	y4 (0.06)
485.512	4732.32 <sub>3</sub>	8.15	
491.544	3548.09 <sub>3</sub>	6.11	
494.401	58056.20 <sub>3</sub>	100	x8[2+] (0.20)
500.456	47943.19 <sub>3</sub>	82.58	
549.103	9318.38 <sub>3</sub>	16.05	
549.801	4211.59 <sub>3</sub>	7.25	
666.366	711.48 <sub>3</sub>	1.22	b5o (0.12)
673.339	1045.11 <sub>3</sub>	1.80	b6-98 (0.04)
705.366	6557.82 <sub>3</sub>	11.29	y6 (-0.00)
706.461	1788.73 <sub>3</sub>	3.08	
756.425	643.28 <sub>3</sub>	1.10	
774.388	2506.29 <sub>3</sub>	4.31	y7-98 (0.00)
775.342	1194.20 <sub>3</sub>	2.05	
786.455	1403.29 <sub>3</sub>	2.41	b7-98 (0.07)
843.394	1976.00 <sub>3</sub>	3.40	b8-98 (-0.00)
844.555	816.75 <sub>3</sub>	1.40	
861.422	2267.00 <sub>3</sub>	3.90	y8-98 (0.00)
872.364	2669.37 <sub>3</sub>	4.59	y7 (-0.00)
873.304	681.85 <sub>3</sub>	1.17	
958.437	817.91 <sub>3</sub>	1.40	c8 (0.02)

S1174 and  
S1175  
(diP)

# ProPhosSI MS/MS report

Mass: 737.947954 Charge: 3+





## Cav3.2 human

(21) 1164 ESLLSGEGKGstDDEAEDGR 1183 2210.825 (-0.0050) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
11	(1174)	Phospho (ST)	y5=>y13-196
12	(1175)	Phospho (ST)	

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 2 phosphate ions were not found
Three -98 Ions present	0/1	2 des-phospho fragment ions were found.
Unique -98 transitions present		transition y5 to y13-196 support phosphorylation at position 11 and 12
Four Sequential b or y ions	1/1	Sequence of four y ions found from y2 to y5.
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	0/0	
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	9/6	ion 1 (mass: 885.449; intensity: 824.95) assigned 1 times ion 2 (mass: 666.807; intensity: 429.60) assigned 0 times ion 3 (mass: 1682.814; intensity: 417.22) assigned 2 times ion 4 (mass: 841.911; intensity: 417.22) assigned 2 times ion 5 (mass: 1671.807; intensity: 373.57) assigned 1 times ion 6 (mass: 836.407; intensity: 373.57) assigned 1 times ion 7 (mass: 720.302; intensity: 293.35) assigned 1 times ion 8 (mass: 1439.597; intensity: 293.35) assigned 1 times ion 9 (mass: 792.949; intensity: 275.85) assigned 1 times ion 10 (mass: 942.007; intensity: 218.63) assigned 3 times

## Ion Table

41 ions assigned of 87 ions above threshold (47%).

### N-terminal ions

AA	N-ion	b	b*	b-196	b-98	bo
E	1	130.050	113.023	-	-	112.039
S	2	217.082	200.055	-	-	199.071
L	3	330.166 *330.256 (3)	313.139	-	-	312.155
L	4	443.250	426.224	-	-	425.240 425.305 (8)
S	5	530.282	513.256	-	-	512.272 512.301 (23)
G	6	587.304	570.277	-	-	569.293
E	7	716.346	699.320	-	-	698.336
G	8	773.368	756.341	-	-	755.357
K	9	901.463	884.436	-	-	883.452
G	10	958.484 958.524 (4)	941.458	-	-	940.474
s	11	1125.482	1108.456	-	1027.497	1107.472
t	12	1306.496	1289.470	1110.525	1208.511	1288.486
D	13	1421.523	1404.497	1225.552	1323.537 *662.258 [2+] (9)	1403.513
D	14	1536.550 1536.579 (10)	1519.524	1340.579	1438.564	1518.540
E	15	1665.593	1648.566	1469.621	1567.607 784.462 [2+] (18)	1647.582
A	16	1736.630 1736.704 (2)	1719.603	1540.658	1638.644	1718.619
E	17	1865.673 *1865.850 (5) *933.428 [2+] (5)	1848.646	1669.701	1767.687	1847.662
D	18	1980.700 991.235 [2+] (5)	1963.673	1784.728 *892.877 [2+] (17)	1882.714 *942.007 [2+] (26)	1962.689
G	19	2037.721	2020.695	1841.749	1939.735	2019.710
R	20	-	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-196	y-98	yo
E	20	-	-	-	-	-
S	19	2082.790 1041.575 [2+] (2)	2065.764	1886.818	1984.804	2064.780
L	18	1995.758 998.672 [2+] (18)	1978.732	1799.786	1897.772	1977.748
L	17	1882.674 *942.007 [2+] (26)	1865.647 *1865.850 (5) *933.428 [2+] (5)	1686.702	1784.688 *892.877 [2+] (17)	1864.663
S	16	1769.590 885.449 [2+] (100)	1752.563	1573.618	1671.604 1671.807 (45) 836.407 [2+] (45)	1751.579
G	15	1682.558 *1682.814 (50) *841.911 [2+] (50)	1665.531	1486.586	1584.572 792.949 [2+] (33)	1664.547 1664.959 (8)
E	14	1625.536	1608.510	1429.565	1527.551	1607.526
G	13	1496.494 1496.717 (11) 748.862 [2+] (11)	1479.467	1300.522 1300.565 (3)	1398.508	1478.483
K	12	1439.472 720.302 [2+] (35) 1439.597 (35)	1422.446	1243.501	1341.486	1421.462

G	11	1311.377	1294.351	1115.406	1213.392 607.348 [2+] (11)	1293.367
s	10	1254.356	1237.329	1058.384	1156.370	1236.345
t	9	1087.358	1070.331	-	989.372	1069.347
D	8	906.344	889.317	-	-	888.333
D	7	791.317	774.290	-	-	773.306
E	6	676.290	659.263 *330.256 [2+] (3)	-	-	658.279
A	5	547.247 *547.242 (26)	530.221	-	-	529.237
E	4	476.210 476.299 (8)	459.183	-	-	458.199
D	3	347.167 *347.256 (5)	330.141 *330.256 (3)	-	-	329.157
G	2	232.140 232.208 (5)	215.114	-	-	214.130
R	1	175.119	158.092	-	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	98	44	44
0.5	98	44	44
1	98	44	44
2	87	41	47
3	74	36	48
4	61	34	55
5	53	33	62
10	34	21	61

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
232.208	46.04 <sub>,</sub>	5.58	y2 (0.06)
233.309	14.42 <sub>,</sub>	1.74	
243.176	20.48 <sub>,</sub>	2.48	a5*[2+] (0.04)
247.285	10.26 <sub>,</sub>	1.24	
294.216	11.25 <sub>,</sub>	1.36	b6[2+] (0.06)
312.262	15.53 <sub>,</sub>	1.88	b3o (0.10)
330.256	26.23 <sub>,</sub>	3.17	z6[2+] (0.12) : y6*[2+] (0.12) : y3* (0.11) : z3 (0.11) : b3 (0.08)
347.256	45.71 <sub>,</sub>	5.54	y3 (0.08) : c3 (0.06)
365.268	22.08 <sub>,</sub>	2.67	
381.217	21.42 <sub>,</sub>	2.59	
397.344	63.88 <sub>,</sub>	7.74	a4o (0.09)
415.408	18.51 <sub>,</sub>	2.24	a4 (0.15)
425.305	69.54 <sub>,</sub>	8.42	b4o (0.06)
476.299	70.14 <sub>,</sub>	8.50	y4 (0.08)

477.251	29.25 <sub>3</sub>	3.54	
489.205	59.84 <sub>3</sub>	7.25	
494.221	108.17 <sub>3</sub>	13.11	
512.301	190.34 <sub>3</sub>	23.07	b5o (0.02)
547.242	218.22 <sub>3</sub>	26.45	y5 (-0.00) : c5 (-0.06)
548.231	48.54 <sub>3</sub>	5.88	
593.966	37.53 <sub>3</sub>	4.54	
596.610	51.74 <sub>3</sub>	6.27	
601.291	38.02 <sub>3</sub>	4.60	
607.348	91.46 <sub>3</sub>	11.08	y11-98[2+] (0.14)
640.172	124.45 <sub>3</sub>	15.08	a12[2+] (0.41)
641.872	103.31 <sub>3</sub>	12.52	x10[2+] (0.19)
662.258	79.27 <sub>3</sub>	9.60	c12[2+] (-0.00) : b13-98[2+] (-0.01)
666.807	429.60 <sub>3</sub>	52.07	
673.068	86.04 <sub>3</sub>	10.42	
720.302	293.35 <sub>3</sub>	35.55	y12[2+] (0.06)
725.991	190.97 <sub>3</sub>	23.14	
726.904	188.67 <sub>3</sub>	22.87	a8o (-0.45)
748.862	96.01 <sub>3</sub>	11.63	y13[2+] (0.11)
775.582	117.89 <sub>3</sub>	14.29	
784.462	150.48 <sub>3</sub>	18.24	b15-98[2+] (0.15)
792.949	275.85 <sub>3</sub>	33.43	y15-98[2+] (0.15)
836.407	373.57 <sub>3</sub>	45.28	y16-98[2+] (0.10)
837.210	178.72 <sub>3</sub>	21.66	
841.911	417.22 <sub>3</sub>	50.57	y15[2+] (0.12) : c15[2+] (0.09)
885.449	824.95 <sub>3</sub>	100	y16[2+] (0.14)
886.382	206.58 <sub>3</sub>	25.04	
892.877	142.51 <sub>3</sub>	17.27	y17-98[2+] (0.02) : b18-196[2+] (0.00)
933.428	44.23 <sub>3</sub>	5.36	y17*[2+] (0.10) : z17[2+] (0.10) : b17[2+] (0.08)
942.007	218.63 <sub>3</sub>	26.50	y17[2+] (0.16) : c17[2+] (0.15) : b18-98[2+] (0.14)
942.953	40.86 <sub>3</sub>	4.95	
958.524	36.31 <sub>3</sub>	4.40	b10 (0.03)
991.235	44.06 <sub>3</sub>	5.34	b18[2+] (0.38)
998.672	155.22 <sub>3</sub>	18.81	y18[2+] (0.28)
1038.391	21.79 <sub>3</sub>	2.64	
1041.575	21.94 <sub>3</sub>	2.65	y19[2+] (-0.32)
1042.613	54.80 <sub>3</sub>	6.64	
1047.729	28.09 <sub>3</sub>	3.40	
1086.681	38.34 <sub>3</sub>	4.64	
1100.623	25.13 <sub>3</sub>	3.04	

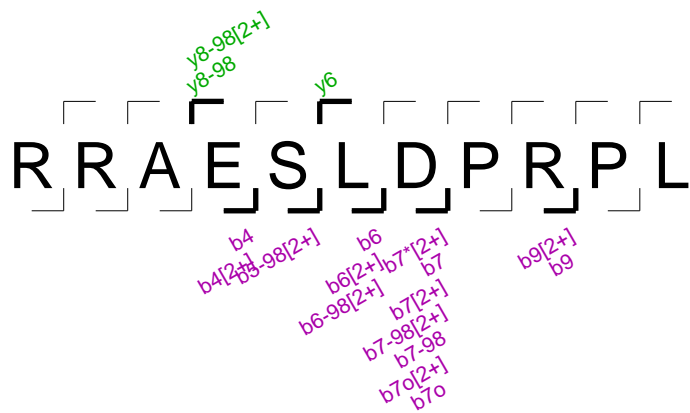
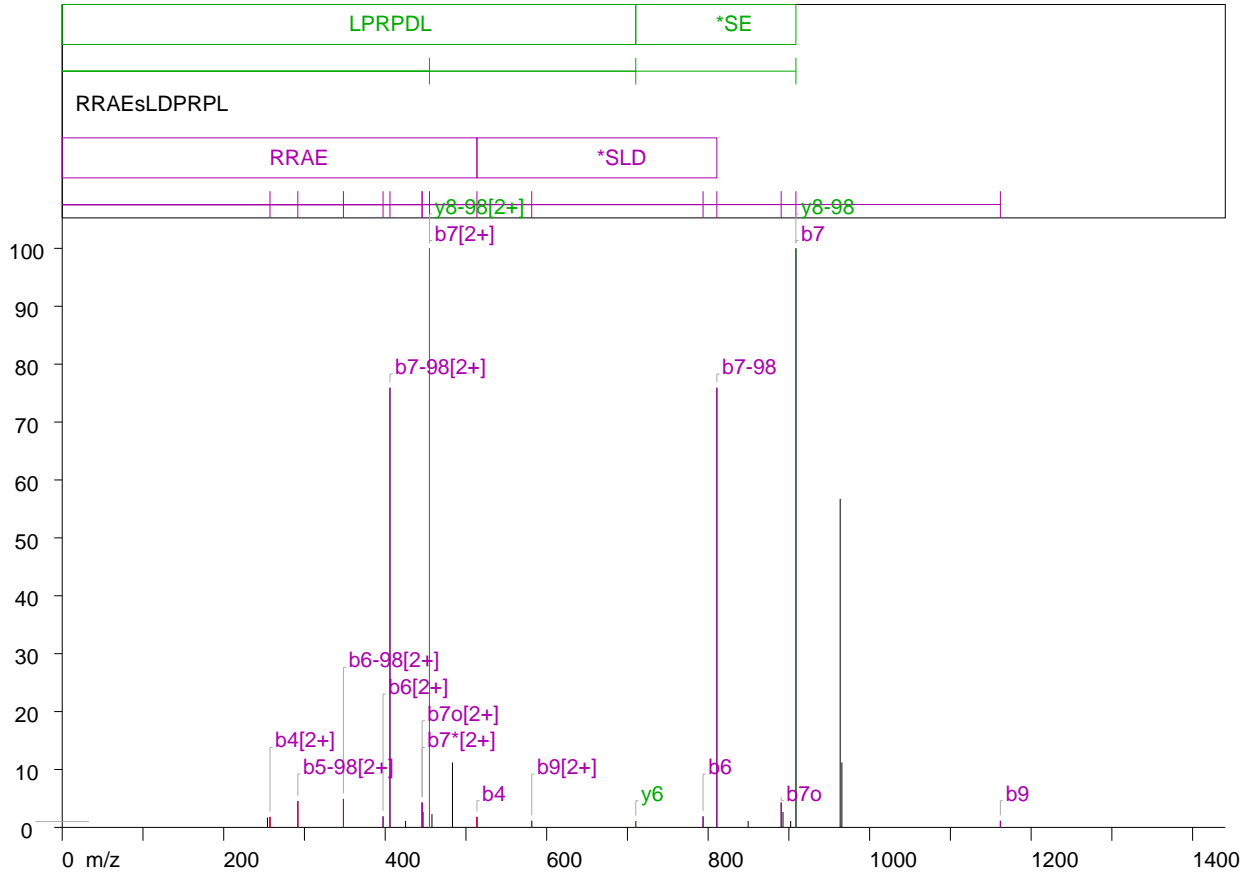
1180.570	22.60,	2.73	
1215.502	17.74,	2.15	
1215.722	16.01,	1.94	
1221.455	21.49,	2.60	
1229.826	13.38,	1.62	
1242.465	12.65,	1.53	
1257.186	34.78,	4.21	
1279.336	124.45,	15.08	
1300.565	31.73,	3.84	y13-196 (0.04)
1315.297	65.18,	7.90	
1320.058	35.46,	4.29	
1345.130	86.04,	10.42	
1395.726	61.54,	7.45	
1439.597	293.35,	35.55	y12 (0.12)
1450.975	190.97,	23.14	
1451.558	24.90,	3.01	
1452.800	188.67,	22.87	
1457.583	85.10,	10.31	
1471.750	20.43,	2.47	
1483.688	25.59,	3.10	
1496.717	96.01,	11.63	y13 (0.22)
1536.579	85.38,	10.34	b14 (0.02)
1551.659	27.82,	3.37	
1559.400	43.64,	5.29	
1620.654	56.58,	6.85	a15* (0.08)
1640.708	26.09,	3.16	
1664.959	67.92,	8.23	y15o (0.41)
1667.740	36.43,	4.41	
1671.807	373.57,	45.28	y16-98 (0.20)
1682.814	417.22,	50.57	y15 (0.25) : c15 (0.19)
1730.075	30.63,	3.71	
1736.704	21.07,	2.55	b16 (0.07)
1749.875	31.58,	3.82	
1753.653	47.34,	5.73	c16 (-0.00)
1771.756	206.58,	25.04	
1786.667	26.66,	3.23	
1829.816	13.36,	1.61	
1832.770	23.58,	2.85	
1847.752	11.74,	1.42	b17o (0.08)
1864.114	28.05,	3.40	
1865.850	44.23,	5.36	y17* (0.20) : z17 (0.20) : b17 (0.17)
1900.648	13.20,	1.60	

1935.211	21.82	2.64	a18* (-0.46)
1979.411	14.61	1.77	

S1198

# ProPhosSI MS/MS report

Mass: 463.904575 Charge: 3+





## Cav3.2 human

(34) 1194 RRAE<sup>+</sup>LDPRPL 1204 1388.692 (-0.0023) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
5	(1198)	Phospho (ST)	b4 => b5-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	4 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b4 to b5-98[2+] supports phosphorylation at position 5  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b4 to b7-98.
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	1/1	No proline ions at y4 PASS: b8-98< b7-98  No proline ions at y2 No proline ions at b10-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 908.671: intensity: 42897.06) assigned 2 times ion 2 (mass: 454.839: intensity: 42897.06) assigned 2 times ion 3 (mass: 405.887: intensity: 32571.37) assigned 2 times ion 4 (mass: 810.768: intensity: 32571.37) assigned 2 times ion 5 (mass: 963.517: intensity: 24335.35) assigned 0 times ion 6 (mass: 483.311: intensity: 4815.75) assigned 0 times ion 7 (mass: 965.614: intensity: 4815.75) assigned 0 times ion 8 (mass: 348.289: intensity: 2108.75) assigned 1 times ion 9 (mass: 291.771: intensity: 1942.19) assigned 1 times ion 10 (mass: 445.719: intensity: 1844.64) assigned 2 times

## Ion Table

15 ions assigned of 25 ions above threshold (60%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
R	1	157.108	140.082	-	139.098
R	2	313.210	296.183	-	295.199
A	3	384.247	367.220	-	366.236

E	4	513.289 513.617 (1) *257.312 [2+] (1)	496.263	-	495.279
s	5	680.288	663.261	582.302 291.771 [2+] (4)	662.277
L	6	793.372 793.683 (1) 397.345 [2+] (1)	776.345	695.386 348.289 [2+] (4)	775.361
D	7	908.399 *908.671 (100) *454.839 [2+] (100)	891.372 *445.719 [2+] (4)	810.413 *405.887 [2+] (75) *810.768 (75)	890.388 *445.719 [2+] (4) 890.431 (4)
P	8	1005.451	988.425	907.466	987.441
R	9	1161.553 581.461 [2+] (1) 1161.914 (1)	1144.526	1063.567	1143.542
P	10	1258.605	1241.579	1160.619	1240.595
L	11	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
R	11	-	-	-	-
R	10	1233.599	1216.572	1135.613	1215.588
A	9	1077.498	1060.471	979.512	1059.487
E	8	1006.461	989.434	908.475 *908.671 (100) *454.839 [2+] (100)	988.450
s	7	877.418	860.391	779.432	859.407
L	6	710.420 710.351 (1)	693.393	-	692.409
D	5	597.336	580.309	-	579.325
P	4	482.309	465.282	-	464.298
R	3	385.256	368.229	-	367.245
P	2	229.155	212.128	-	211.144
L	1	132.102	115.075	-	114.091

### Ion distribution

Threshold	Ion count	Matches	% matched
0	66	29	43
0.5	34	19	55
1	25	15	60
2	14	8	57
3	11	8	72
4	11	8	72
5	7	4	57
10	7	4	57

### Observed ions > 1%

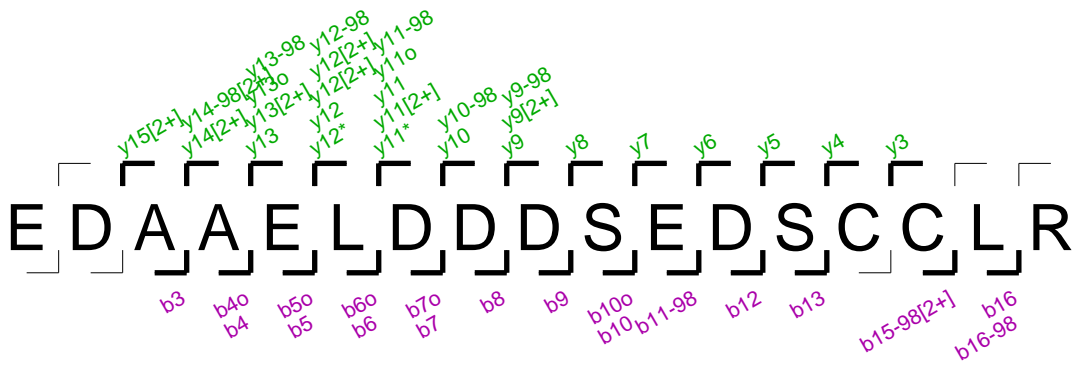
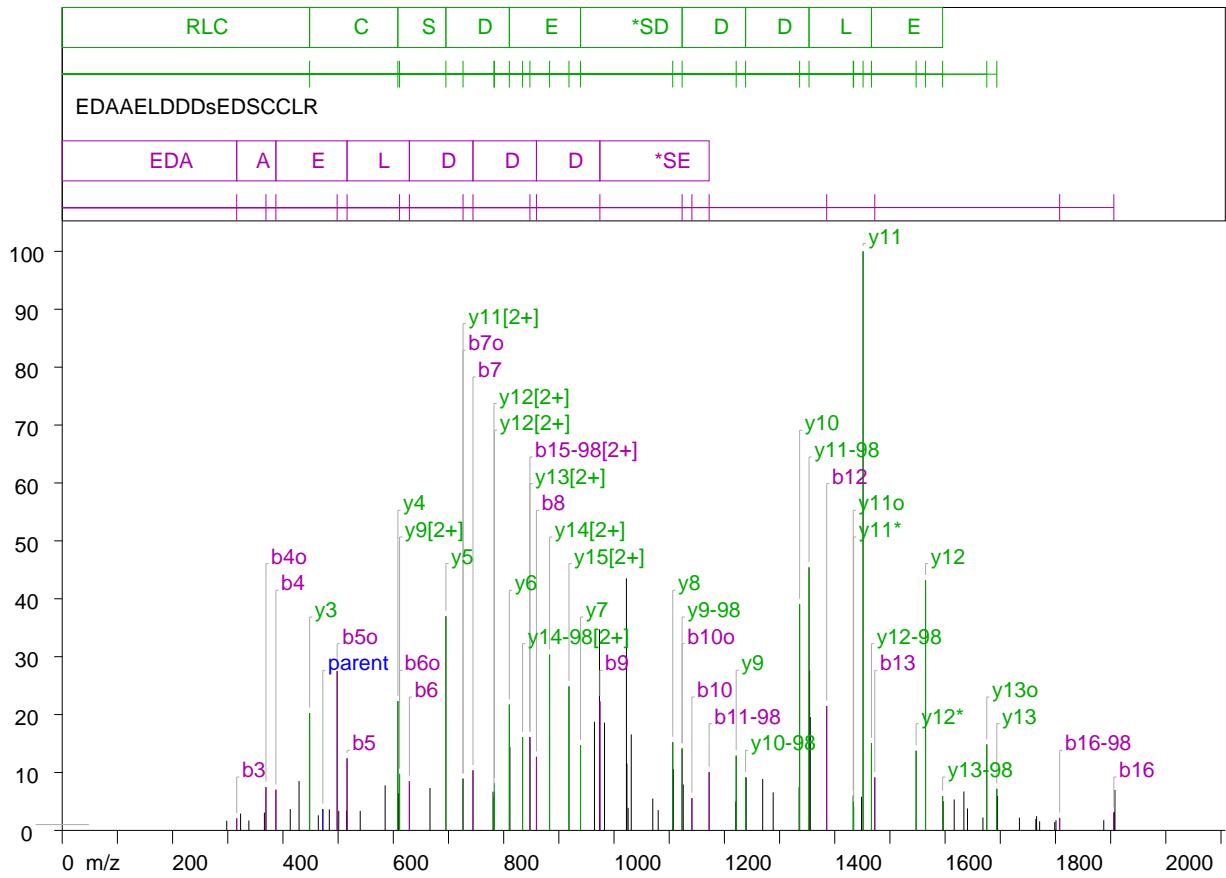
m/z	Intensity	% max	Assignment (delta)
254.228	725.97 <sub>3</sub>	1.69	

257.312	778.62,	1.81	b4[2+] (0.16) : x2 (0.16)
291.771	1942.19,	4.52	b5-98[2+] (0.11)
348.289	2108.75,	4.91	b6-98[2+] (0.09)
397.345	819.41,	1.91	b6[2+] (0.15)
405.887	32571.37,	75.92	c6[2+] (0.18) : b7-98[2+] (0.17)
425.283	471.65,	1.09	
445.719	1844.64,	4.30	b7o[2+] (0.02) : b7*[2+] (-0.47)
446.852	1142.31,	2.66	
454.839	42897.06,	100	b7[2+] (0.13) : y8-98[2+] (0.09)
457.918	980.30,	2.28	
483.311	4815.75,	11.22	
513.617	778.62,	1.81	b4 (0.32)
581.461	490.04,	1.14	b9[2+] (0.18)
710.351	475.16,	1.10	y6 (-0.06)
793.683	819.41,	1.91	b6 (0.31)
810.768	32571.37,	75.92	c6 (0.36) : b7-98 (0.35)
849.558	471.65,	1.09	
890.431	1844.64,	4.30	b7o (0.04)
892.696	1142.31,	2.66	
902.204	480.03,	1.11	
908.671	42897.06,	100	b7 (0.27) : y8-98 (0.19)
963.517	24335.35,	56.72	
965.614	4815.75,	11.22	
1161.914	490.04,	1.14	b9 (0.36)

S1246

# ProPhosSI MS/MS report

Mass: 1040.361043 Charge: 2+



## Cav3.2 human

(80) 1237\*EDAAELDDDsEDSCCLR 1253 2078.708 (-0.0018) Da

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
10	(1246)	Phospho (ST)	b9=>b11-98; y7=>y9-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	1/1	Parent ions for the dephospho fragment p-98 are observed in the spectrum
Three -98 Ions present	1/1	9 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b9 to b11-98, transition y7 to y9-98 support unique phosphorylation at position 10  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b3 to b6. Sequence of four y ions found from y3 to y6.
Five of six sequential ions present	1/1	Five of Six ions found between b2 and b7 Five of Six ions found between b3 and b8 Five of Six ions found between b4 and b9 Five of Six ions found between b5 and b10 Five of Six ions found between b6 and b11 Five of Six ions found between y2 and y7 Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y8 and y13 Five of Six ions found between y9 and y14 Five of Six ions found between y10 and y15
Proline directed fragmentation pattern	0/0	
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 1451.333: intensity: 683.02) assigned 1 times ion 2 (mass: 1353.391: intensity: 310.33) assigned 1 times ion 3 (mass: 1022.492: intensity: 297.35) assigned 0 times ion 4 (mass: 1564.590: intensity: 294.94) assigned 1 times ion 5 (mass: 1336.339: intensity:

-	-	266.99) assigned 1 times ion 6 (mass: 695.315: intensity: 252.69) assigned 1 times ion 7 (mass: 973.607: intensity: 237.12) assigned 0 times ion 8 (mass: 883.207: intensity: 207.21) assigned 2 times ion 9 (mass: 1354.452: intensity: 188.51) assigned 0 times ion 10 (mass: 498.210: intensity: 188.04) assigned 1 times
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## Ion Table

46 ions assigned of 87 ions above threshold (52%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
E	1	130.050	113.023	-	112.039
D	2	245.077	228.050	-	227.066
A	3	316.114 *316.194 (2)	299.087	-	298.103
A	4	387.151 387.221 (7)	370.125	-	369.141 369.215 (7)
E	5	516.194 516.167 (12)	499.167	-	498.183 498.210 (27)
L	6	629.278 629.081 (8)	612.251	-	611.267 *611.304 (9)
D	7	744.305 744.367 (10)	727.278	-	726.294 *726.369 (8)
D	8	859.332 859.395 (12)	842.305	-	841.321
D	9	974.359 974.349 (22)	957.332	-	956.348
s	10	1141.357 1141.120 (5)	1124.330	1043.371	1123.346 *1123.395 (14)
E	11	1270.400	1253.373	1172.414 1172.369 (10)	1252.389
D	12	1385.427 1385.389 (21)	1368.400	1287.441	1367.416
S	13	1472.459 1472.547 (9)	1455.432	1374.473	1454.448
C	14	1632.489	1615.463	1534.503	1614.479
C	15	1792.520	1775.493	1694.534 *847.567 [2+] (16)	1774.509
L	16	1905.604 1905.765 (3)	1888.577	1807.618 1807.593 (2)	1887.593
R	17	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
E	17	-	-	-	-
D	16	1950.673	1933.646	1852.687	1932.662
A	15	1835.646 918.372 [2+] (24)	1818.619	1737.660	1817.635
A	14	1764.609 *883.207 [2+] (30)	1747.582	1666.623 834.283 [2+] (16)	1746.598
E	13	1693.572 1693.677 (7) *847.567 [2+] (16)	1676.545	1595.586 1595.519 (5)	1675.561 1675.513 (14)

L	12	1564.529 1564.590 (43) 783.231 [2+] (8) 782.369 [2+] (5)	1547.503 *1547.472 (13)	1466.543 1466.481 (15)	1546.519
D	11	1451.445 *726.369 [2+] (8) 1451.333 (100)	1434.419 *1434.222 (4)	1353.459 1353.391 (45)	1433.435 1433.458 (6)
D	10	1336.418 1336.339 (39)	1319.392	1238.432 1238.460 (9)	1318.408
D	9	1221.391 1221.369 (12) *611.304 [2+] (9)	1204.365	1123.405 *1123.395 (14)	1203.381
s	8	1106.364 1106.374 (15)	1089.338	1008.378	1088.354
E	7	939.366 *939.336 (14)	922.339	-	921.355
D	6	810.323 810.284 (21)	793.297	-	792.313
S	5	695.296 695.315 (36)	678.270	-	677.286
C	4	608.264 608.273 (22)	591.238	-	590.254
C	3	448.234 448.323 (20)	431.207	-	430.223
L	2	288.203	271.177	-	270.193
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	96	48	50
0.5	94	48	51
1	94	48	51
2	87	45	51
3	80	42	52
4	68	40	58
5	66	39	59
10	36	26	72

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
298.099	11.40 <sub>1</sub>	1.66	b3o (-0.00)
316.194	14.13 <sub>1</sub>	2.06	b3 (0.07) : x2 (-0.00)
323.262	19.89 <sub>1</sub>	2.91	c6[2+] (-0.39)
338.232	11.69 <sub>1</sub>	1.71	
366.384	21.07 <sub>1</sub>	3.08	
369.215	51.08 <sub>1</sub>	7.47	b4o (0.07)
387.221	47.97 <sub>1</sub>	7.02	b4 (0.06)
413.231	25.15 <sub>1</sub>	3.68	
429.191	58.24 <sub>1</sub>	8.52	
448.323	138.49 <sub>1</sub>	20.27	y3 (0.08)



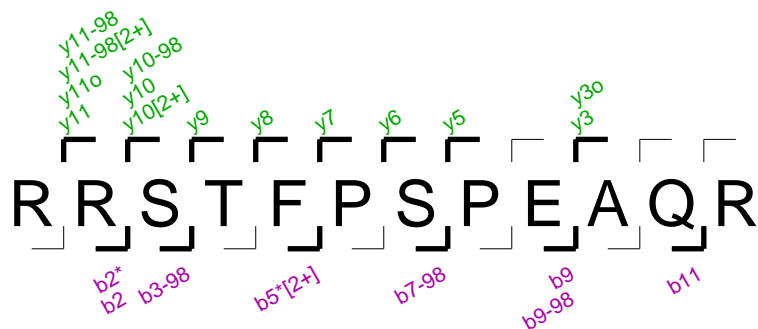
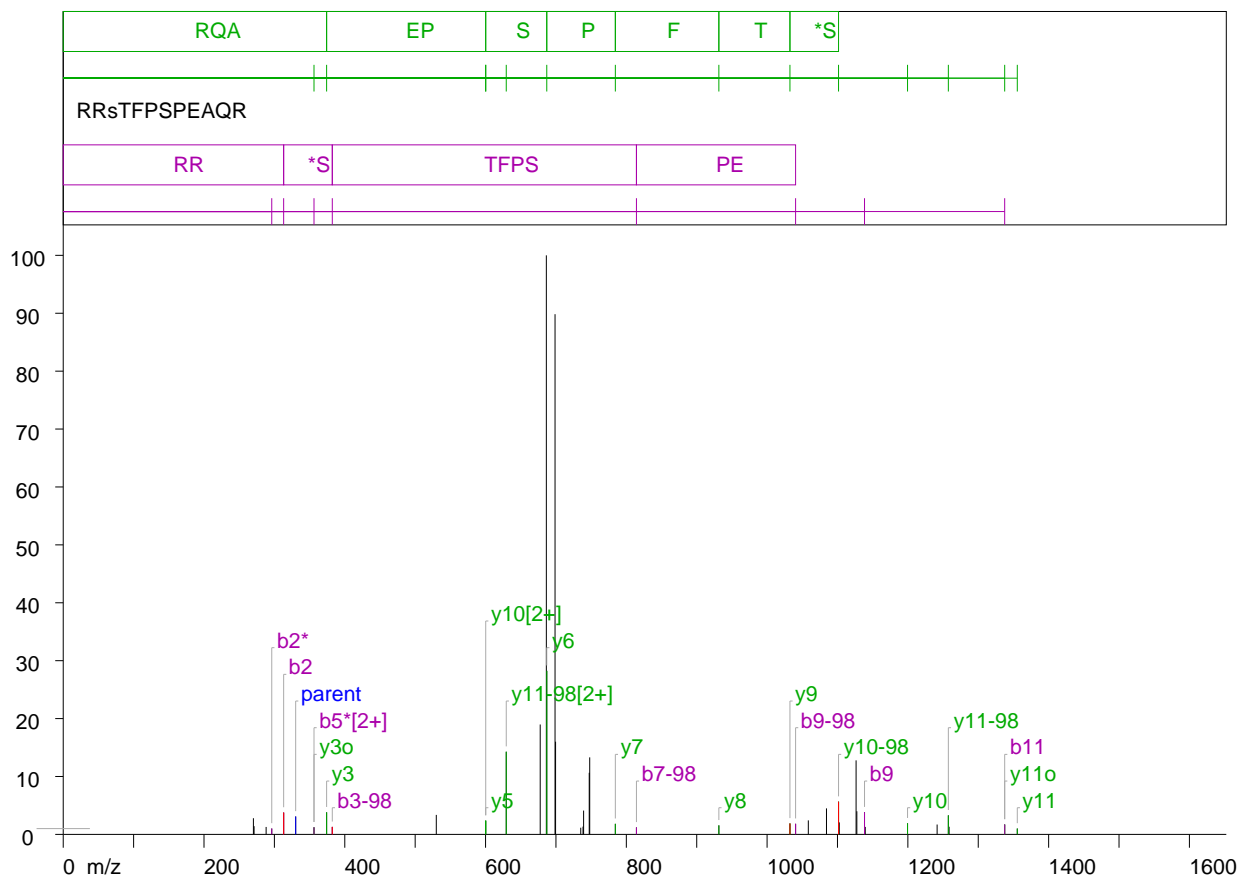
464.094	17.83,	2.61	
472.259	25.16,	3.68	
484.043	24.82,	3.63	x7[2+] (-0.14)
498.210	188.04,	27.53	b5o (0.02)
501.108	23.12,	3.38	
515.373	23.16,	3.39	
516.167	85.07,	12.45	b5 (-0.02)
539.995	23.01,	3.36	
585.216	53.14,	7.78	
608.273	152.50,	22.32	y4 (0.00)
609.305	43.66,	6.39	
611.304	66.61,	9.75	y9[2+] (0.10) : b6o (0.03)
629.081	58.16,	8.51	b6 (-0.19)
666.491	50.04,	7.32	
695.315	252.69,	36.99	y5 (0.01)
726.369	60.97,	8.92	y11[2+] (0.14) : b7o (0.07)
744.367	70.88,	10.37	b7 (0.06)
780.730	45.84,	6.71	
782.369	38.83,	5.68	y12[2+] (-0.39)
783.231	55.62,	8.14	y12[2+] (0.46)
810.284	148.35,	21.71	y6 (-0.03)
811.354	98.45,	14.41	
834.283	109.96,	16.09	y14-98[2+] (0.46)
847.567	110.20,	16.13	y13[2+] (0.27) : b15-98[2+] (-0.20)
859.395	86.78,	12.70	b8 (0.06)
883.207	207.21,	30.33	a15[2+] (0.44) : y14[2+] (0.39)
918.372	169.88,	24.87	y15[2+] (0.04)
939.336	100.38,	14.69	a16[2+] (0.02) : y7 (-0.03)
964.566	128.20,	18.76	
973.607	237.12,	34.71	
974.349	152.19,	22.28	b9 (-0.01)
982.697	127.20,	18.62	
1022.492	297.35,	43.53	
1023.399	78.86,	11.54	
1025.553	26.64,	3.90	
1031.219	113.23,	16.57	
1070.206	37.50,	5.49	
1080.051	23.90,	3.49	
1106.374	104.08,	15.23	y8 (0.00)
1107.383	72.31,	10.58	
1123.395	96.54,	14.13	b10o (0.04) : y9-98 (-0.01)
1125.406	54.16,	7.92	

1141.120	38.15 <sub>,</sub>	5.58	b10 (-0.23)
1172.369	68.73 <sub>,</sub>	10.06	b11-98 (-0.04)
1220.729	34.07 <sub>,</sub>	4.98	
1221.369	88.20 <sub>,</sub>	12.91	y9 (-0.02)
1238.460	62.79 <sub>,</sub>	9.19	y10-98 (0.02)
1239.456	62.39 <sub>,</sub>	9.13	
1269.430	60.67 <sub>,</sub>	8.88	
1288.421	44.82 <sub>,</sub>	6.56	
1335.414	51.14 <sub>,</sub>	7.48	
1336.339	266.99 <sub>,</sub>	39.08	y10 (-0.07)
1353.391	310.33 <sub>,</sub>	45.43	y11-98 (-0.06)
1354.452	188.51 <sub>,</sub>	27.59	
1355.672	133.77 <sub>,</sub>	19.58	
1385.389	146.67 <sub>,</sub>	21.47	b12 (-0.03)
1433.458	41.10 <sub>,</sub>	6.01	y11o (0.02)
1434.222	27.66 <sub>,</sub>	4.04	y11* (-0.19) : z11 (-0.19)
1448.528	39.62 <sub>,</sub>	5.80	
1451.333	683.02 <sub>,</sub>	100	y11 (-0.11)
1466.481	102.89 <sub>,</sub>	15.06	y12-98 (-0.06)
1472.547	62.55 <sub>,</sub>	9.15	b13 (0.08)
1547.472	93.97 <sub>,</sub>	13.75	y12* (-0.03) : z12 (-0.03)
1564.590	294.94 <sub>,</sub>	43.18	y12 (0.06)
1595.519	40.46 <sub>,</sub>	5.92	y13-98 (-0.06)
1596.428	34.37 <sub>,</sub>	5.03	
1616.463	36.48 <sub>,</sub>	5.34	
1634.026	45.91 <sub>,</sub>	6.72	
1640.540	25.83 <sub>,</sub>	3.78	
1668.559	15.22 <sub>,</sub>	2.22	
1675.513	101.42 <sub>,</sub>	14.84	y13o (-0.04)
1693.677	49.07 <sub>,</sub>	7.18	y13 (0.10)
1695.097	40.59 <sub>,</sub>	5.94	
1734.675	15.02 <sub>,</sub>	2.19	
1764.426	13.46 <sub>,</sub>	1.97	a15 (-0.09) : y14 (-0.18)
1765.785	16.81 <sub>,</sub>	2.46	
1771.303	10.67 <sub>,</sub>	1.56	
1798.672	9.83 <sub>,</sub>	1.43	
1800.926	11.97 <sub>,</sub>	1.75	
1807.593	14.77 <sub>,</sub>	2.16	b16-98 (-0.02)
1887.479	12.06 <sub>,</sub>	1.76	b16o (-0.11)
1905.765	20.92 <sub>,</sub>	3.06	b16 (0.16)
1906.572	21.99 <sub>,</sub>	3.21	
1907.788	47.66	6.97	

**S1587**

# ProPhosSI MS/MS report

Mass: 756.359385 Charge: 2+



## Cav3.2 human

(47) 1585 RRsTFPSPEAQR 1596 ~1510.704 (-0.0010) Da

Parent Ion	m/z
p-98[2+]	330.228 (3)

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(1587)	Phospho (ST)	b2 => b3-98 : y9 => y10-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	1/1	Parent ions for the dephospho fragment p-98 are observed in the spectrum
Three -98 Ions present	1/1	5 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b2 to b3-98, transition y9 to y10-98 support unique phosphorylation at position 3  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y5 to y8.
Five of six sequential ions present	1/1	Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12
Proline directed fragmentation pattern	2/3	FAIL: y7< y6 No proline ions at b6-98  NOTE: S-P is a low abundance fragmentation. PASS: y5> y4  PASS: b8-98< b7-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	4/6	ion 1 (mass: 686.358: intensity: 10025.54) assigned 0 times ion 2 (mass: 698.735: intensity: 9006.65) assigned 0 times ion 3 (mass: 686.973: intensity: 2832.12) assigned 1 times ion 4 (mass: 677.639: intensity: 1902.92) assigned 1 times ion 5 (mass: 699.481: intensity: 1605.08) assigned 0 times ion 6 (mass: 629.423: intensity: 1431.57) assigned 1 times ion 7 (mass: 747.995: intensity: 1333.67) assigned 0 times ion 8 (mass: 1126.437: intensity: 1281.87) assigned 0 times ion 9 (mass: 747.300: intensity: 1066.71) assigned 0 times ion 10 (mass: 1101.482: intensity: 566.37) assigned 1 times

## Ion Table

22 ions assigned of 41 ions above threshold (53%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
R	1	157.108	140.082	-	139.098
R	2	313.210 313.142 (3)	296.183 296.253 (1)	-	295.199
s	3	480.208	463.181	382.222 382.284 (1)	462.197
T	4	581.256	564.229	483.270	563.245
F	5	728.324	711.297 *356.272 [2+] (1)	630.338	710.313
P	6	825.377	808.350	727.391	807.366
S	7	912.409	895.382	814.423 814.389 (1)	894.398
P	8	1009.462	992.435	911.476	991.451
E	9	1138.504 1138.419 (3)	1121.478	1040.518 1040.501 (1)	1120.494
A	10	1209.541	1192.515	1111.555	1191.531
Q	11	1337.600 *1337.536 (1)	1320.573	1239.614	1319.589
R	12	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
R	12	-	-	-	-
R	11	1355.610 1355.459 (1)	1338.584	1257.625 629.423 [2+] (14) 1257.517 (3)	1337.600 *1337.536 (1)
s	10	1199.509 *600.241 [2+] (2) 1199.529 (1)	1182.483	1101.523 1101.482 (5)	1181.499
T	9	1032.511 1032.467 (1)	1015.484	-	1014.500
F	8	931.463 931.458 (1)	914.437	-	913.453
P	7	784.395 784.421 (1)	767.368	-	766.384
S	6	687.342 686.973 (28)	670.316	-	669.332
P	5	600.310 *600.241 (2)	583.284	-	582.300
E	4	503.257	486.231	-	485.247
A	3	374.215 374.200 (3)	357.188	-	356.204 *356.272 (1)
Q	2	303.178	286.151	-	285.167
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	74	30	40
0.5	55	27	49
1	41	21	51

2	23	10	43
3	19	9	47
4	12	4	33
5	10	4	40
10	9	3	33

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
270.191	280.18 <sub>3</sub>	2.79	
271.148	142.53 <sub>3</sub>	1.42	
288.248	129.04 <sub>3</sub>	1.28	
296.253	101.77 <sub>3</sub>	1.01	b2* (0.06)
313.142	378.01 <sub>3</sub>	3.77	b2 (-0.06)
330.228	310.14 <sub>3</sub>	3.09	c2 (-0.00)
356.272	123.01 <sub>3</sub>	1.22	b5*[2+] (0.11) : y3o (0.06)
374.200	382.46 <sub>3</sub>	3.81	y3 (-0.01)
382.284	129.87 <sub>3</sub>	1.29	b3-98 (0.06)
530.037	337.70 <sub>3</sub>	3.36	
600.241	238.68 <sub>3</sub>	2.38	y10[2+] (-0.01) : y5 (-0.06)
629.423	1431.57 <sub>3</sub>	14.27	y11-98[2+] (0.10)
677.639	1902.92 <sub>3</sub>	18.98	c11[2+] (-0.17)
686.358	10025.54 <sub>3</sub>	100	
686.973	2832.12 <sub>3</sub>	28.24	y6 (-0.36)
698.735	9006.65 <sub>3</sub>	89.83	
699.481	1605.08 <sub>3</sub>	16.00	
735.273	115.81 <sub>3</sub>	1.15	
738.468	134.95 <sub>3</sub>	1.34	
739.307	412.63 <sub>3</sub>	4.11	
747.300	1066.71 <sub>3</sub>	10.63	
747.995	1333.67 <sub>3</sub>	13.30	
784.421	183.05 <sub>3</sub>	1.82	y7 (0.02)
814.389	120.98 <sub>3</sub>	1.20	b7-98 (-0.03)
931.458	156.30 <sub>3</sub>	1.55	y8 (-0.00)
1032.467	189.64 <sub>3</sub>	1.89	y9 (-0.04)
1040.501	183.68 <sub>3</sub>	1.83	b9-98 (-0.01)
1058.560	242.75 <sub>3</sub>	2.42	
1084.362	450.35 <sub>3</sub>	4.49	
1101.482	566.37 <sub>3</sub>	5.64	y10-98 (-0.04)
1102.506	207.72 <sub>3</sub>	2.07	
1126.437	1281.87 <sub>3</sub>	12.78	
1127.495	400.62 <sub>3</sub>	3.99	
1138.419	383.47 <sub>3</sub>	3.82	b9 (-0.08)

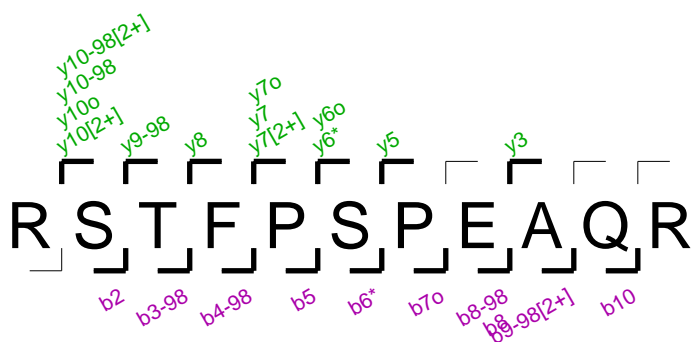
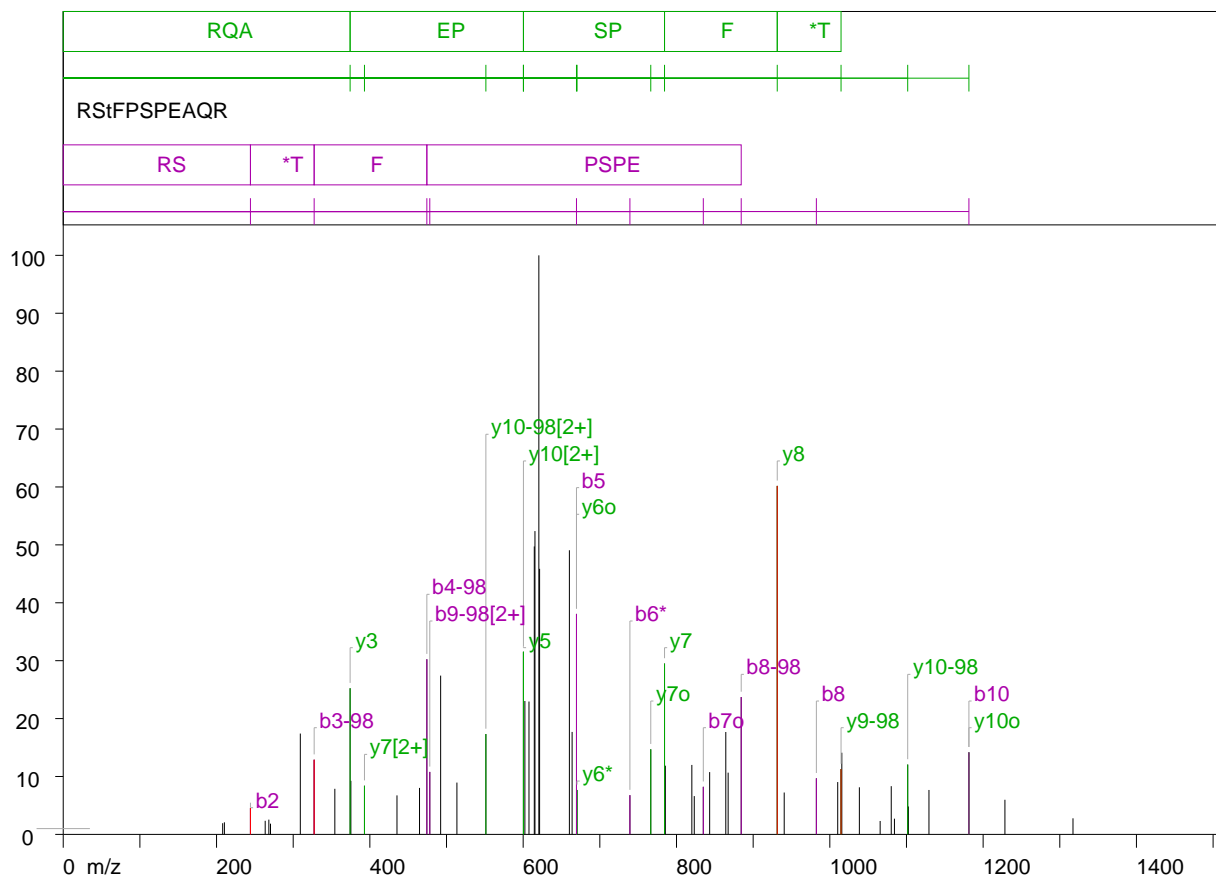
1139.422	129.82 <sub>2</sub>	1.29	
1199.529	192.11 <sub>2</sub>	1.91	y10 (0.01)
1241.547	170.90 <sub>2</sub>	1.70	
1257.517	329.83 <sub>2</sub>	3.28	y11-98 (-0.10)
1258.586	132.54 <sub>2</sub>	1.32	
1337.536	171.43 <sub>2</sub>	1.70	b11 (-0.06) : y11o (-0.06)
1355.459	101.58 <sub>2</sub>	1.01	y11 (-0.15)



**T1588**

# ProPhosSI MS/MS report

Mass: 678.308061 Charge: 2+



## Cav3.2 human

(26) 1586 RSIFPSPEAQR 1596 1354.603 (-0.0026) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(1588)	Phospho (ST)	b2 => b3-98 : y8 => y9-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	6 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b2 to b3-98, transition y8 to y9-98 support unique phosphorylation at position 3  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y7 to y10-98.
Five of six sequential ions present	1/1	Five of Six ions found between y5 and y10
Proline directed fragmentation pattern	3/3	PASS: y7> y6  PASS: b5-98< b4-98  NOTE: S-P is a low abundance fragmentation. PASS: y5> y4  No proline ions at b7-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	6/6	ion 1 (mass: 620.461: intensity: 188.97) assigned 0 times ion 2 (mass: 931.428: intensity: 113.73) assigned 1 times ion 3 (mass: 615.362: intensity: 98.99) assigned 0 times ion 4 (mass: 614.498: intensity: 93.97) assigned 1 times ion 5 (mass: 660.282: intensity: 92.73) assigned 0 times ion 6 (mass: 621.414: intensity: 86.67) assigned 0 times ion 7 (mass: 669.539: intensity: 71.95) assigned 2 times ion 8 (mass: 600.341: intensity: 59.60) assigned 2 times ion 9 (mass: 474.346: intensity: 57.16) assigned 1 times ion 10 (mass: 784.402: intensity: 55.75) assigned 1 times

## Ion Table

24 ions assigned of 57 ions above threshold (42%).

## N-terminal ions

AA	N-ion	b	b*	b-98	bo
R	1	157.108	140.082	-	139.098
S	2	244.140 244.231 (4)	227.114	-	226.130
t	3	425.154	408.128	327.169 327.352 (12)	407.144
F	4	572.223	555.196	474.237 474.346 (30)	554.212
P	5	669.276 *669.539 (38)	652.249	571.290	651.265
S	6	756.308	739.281 739.245 (6)	658.322	738.297
P	7	853.360	836.334	755.375	835.350 834.988 (8)
E	8	982.403 982.465 (9)	965.377	884.417 884.426 (23)	964.392
A	9	1053.440	1036.414	955.454 *478.172 [2+] (10)	1035.430
Q	10	1181.499 *1181.446 (14)	1164.472	1083.513	1163.488
R	11	-	-	-	-

## C-terminal ions

AA	C-ion	y	y*	y-98	yo
R	11	-	-	-	-
S	10	1199.509 *600.341 [2+] (31)	1182.483	1101.523 1101.624 (12) 551.355 [2+] (17)	1181.499 *1181.446 (14)
t	9	1112.477	1095.451	1014.491 1014.646 (11)	1094.467
F	8	931.463 931.428 (60)	914.437	-	913.453
P	7	784.395 392.954 [2+] (8) 784.402 (29)	767.368	-	766.384 766.431 (14)
S	6	687.342	670.316 *670.274 (7)	-	669.332 *669.539 (38)
P	5	600.310 *600.341 (31)	583.284	-	582.300
E	4	503.257	486.231	-	485.247
A	3	374.215 374.252 (25)	357.188	-	356.204
Q	2	303.178	286.151	-	285.167
R	1	175.119	158.092	-	157.108

## Ion distribution

Threshold	Ion count	Matches	% matched
0	57	24	42
0.5	57	24	42
1	57	24	42
2	55	24	43
3	49	23	46

4	49	23	46
5	47	22	46
10	30	15	50

### Observed ions > 1%

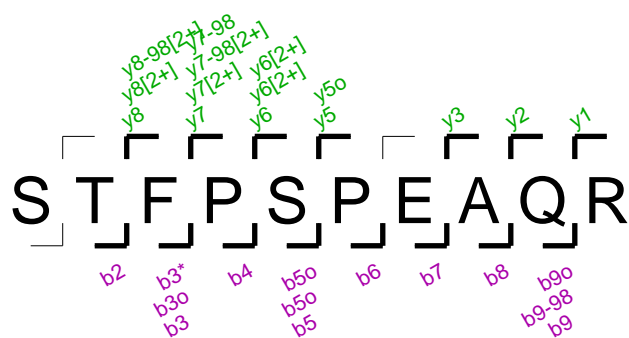
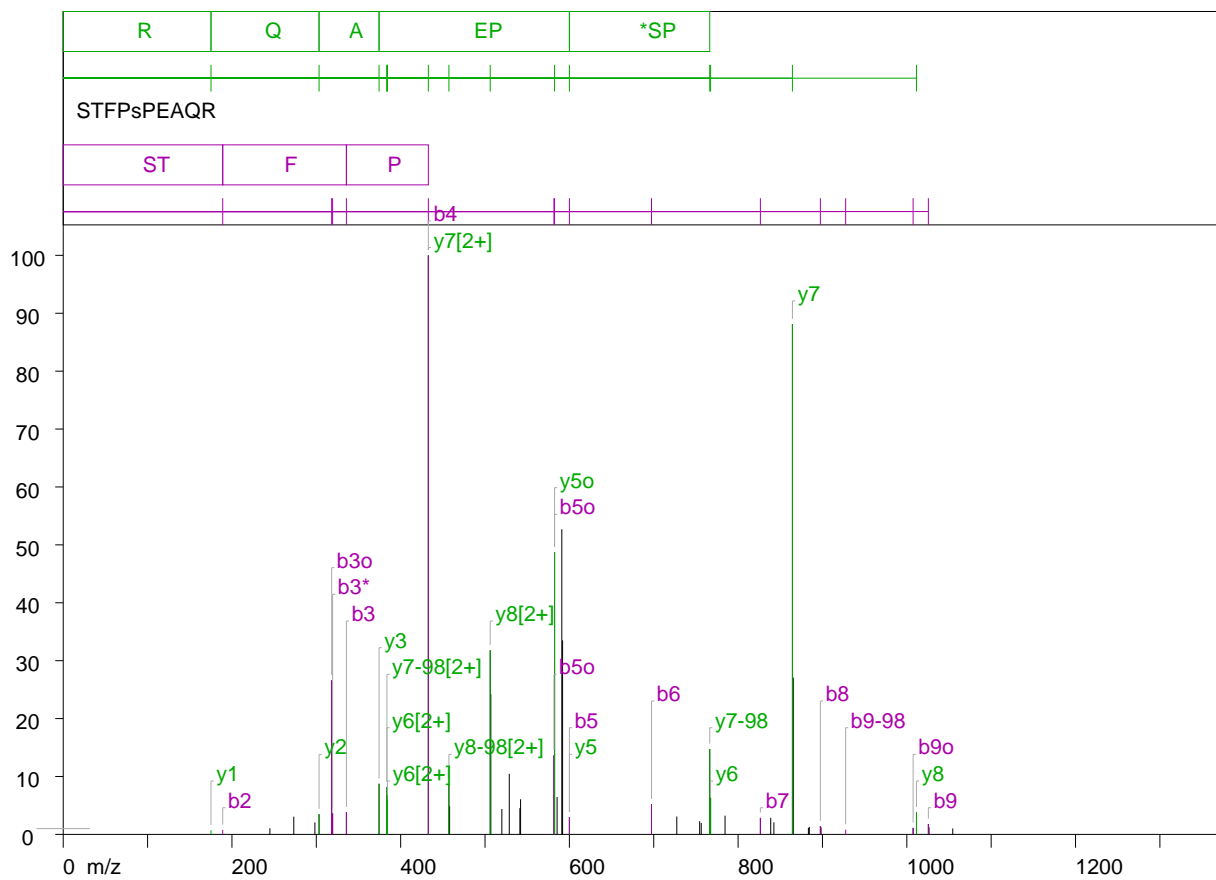
m/z	Intensity	% max	Assignment (delta)
208.003	3.65 <sub>3</sub>	1.93	
210.245	3.94 <sub>3</sub>	2.08	
244.231	8.60 <sub>3</sub>	4.55	b2 (0.09)
263.460	4.44 <sub>3</sub>	2.34	a4o[2+] (-0.15)
268.213	4.82 <sub>3</sub>	2.55	
270.389	3.50 <sub>3</sub>	1.85	
309.272	32.91 <sub>3</sub>	17.41	
327.352	24.37 <sub>3</sub>	12.89	b3-98 (0.18)
354.300	14.88 <sub>3</sub>	7.87	
374.252	47.70 <sub>3</sub>	25.24	y3 (0.03)
375.206	17.49 <sub>3</sub>	9.25	
392.954	15.88 <sub>3</sub>	8.40	y7[2+] (0.25)
435.378	12.73 <sub>3</sub>	6.73	c7[2+] (-0.31)
464.762	15.17 <sub>3</sub>	8.02	
474.346	57.16 <sub>3</sub>	30.24	b4-98 (0.10)
478.172	20.39 <sub>3</sub>	10.79	a8[2+] (0.46) : b9-98[2+] (-0.05)
492.344	51.82 <sub>3</sub>	27.42	
513.549	16.91 <sub>3</sub>	8.94	a9[2+] (0.32)
551.355	32.75 <sub>3</sub>	17.33	y10-98[2+] (0.08)
600.341	59.60 <sub>3</sub>	31.53	y10[2+] (0.08) : y5 (0.03)
602.206	43.53 <sub>3</sub>	23.03	
607.567	43.36 <sub>3</sub>	22.94	
614.498	93.97 <sub>3</sub>	49.72	x10[2+] (0.24)
615.362	98.99 <sub>3</sub>	52.38	
620.461	188.97 <sub>3</sub>	100	
621.414	86.67 <sub>3</sub>	45.86	
660.282	92.73 <sub>3</sub>	49.07	
663.837	33.44 <sub>3</sub>	17.69	
669.539	71.95 <sub>3</sub>	38.07	b5 (0.26) : y6o (0.20)
670.274	14.50 <sub>3</sub>	7.67	y6* (-0.04) : z6 (-0.04)
739.245	12.80 <sub>3</sub>	6.77	b6* (-0.03)
766.431	27.78 <sub>3</sub>	14.70	y7o (0.04)
784.402	55.75 <sub>3</sub>	29.50	y7 (0.00)
785.444	22.42 <sub>3</sub>	11.86	
820.032	22.67 <sub>3</sub>	11.99	
823.178	12.50 <sub>3</sub>	6.61	

834.988	15.53 <sub>3</sub>	8.21	b7o (-0.36)
843.273	20.33 <sub>3</sub>	10.75	
864.315	33.42 <sub>3</sub>	17.68	
867.389	20.15 <sub>3</sub>	10.66	
884.426	44.82 <sub>3</sub>	23.71	b8-98 (0.00)
931.428	113.73 <sub>3</sub>	60.18	y8 (-0.03)
940.525	13.67 <sub>3</sub>	7.23	
982.465	18.30 <sub>3</sub>	9.68	b8 (0.06)
1010.329	17.08 <sub>3</sub>	9.03	
1014.646	21.30 <sub>3</sub>	11.27	y9-98 (0.15)
1015.669	26.66 <sub>3</sub>	14.10	
1038.562	15.37 <sub>3</sub>	8.13	
1065.655	4.38 <sub>3</sub>	2.31	
1080.154	15.74 <sub>3</sub>	8.32	
1084.316	5.13 <sub>3</sub>	2.71	
1101.624	22.79 <sub>3</sub>	12.06	y10-98 (0.10)
1102.465	9.11 <sub>3</sub>	4.82	
1129.333	14.50 <sub>3</sub>	7.67	
1181.446	26.79 <sub>3</sub>	14.17	b10 (-0.05) : y10o (-0.05)
1228.434	11.30 <sub>3</sub>	5.97	
1317.235	5.25	2.77	

**S1591**

# ProPhosSI MS/MS report

Mass: 600.258043 Charge: 2+





## Cav3.2 human

(37) 1587 ~STFPsPEAQR 1596 1198.501 (-0.0015) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
5	(1591)	Phospho (ST)	b3=>b9-98,y3=>y8-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	3 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b3 to b9-98,transition y3 to y8-98[2+] support unique phosphorylation at position 5  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	2/3	PASS: y7-98> y6-98  FAIL: b4> b3 NOTE: S-P is a low abundance fragmentation. PASS: y5> y4  No proline ions at b6-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	6/6	ion 1 (mass: 432.826: intensity: 3155.21) assigned 2 times ion 2 (mass: 864.392: intensity: 2780.23) assigned 1 times ion 3 (mass: 591.049: intensity: 1663.07) assigned 0 times ion 4 (mass: 582.447: intensity: 1537.91) assigned 2 times ion 5 (mass: 591.945: intensity: 1057.36) assigned 0 times ion 6 (mass: 506.161: intensity: 1003.17) assigned 1 times ion 7 (mass: 865.407: intensity: 854.30) assigned 0 times ion 8 (mass: 318.205: intensity: 839.57) assigned 1 times ion 9 (mass: 506.857: intensity: 765.39) assigned 0 times ion 10 (mass: 766.389: intensity: 465.35) assigned 1 times

## Ion Table

28 ions assigned of 54 ions above threshold (51%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
S	1	88.039	71.013	-	70.029
T	2	189.087 189.072 (0)	172.060	-	171.076

F	3	336.155 335.702 (3)	319.129 319.355 (3)	-	318.145 318.205 (26)
P	4	433.208 *432.826 (100)	416.182	-	415.198
s	5	600.207 *600.039 (2)	583.180	502.221	582.196 581.715 (13) *582.447 (48)
P	6	697.259 697.378 (5)	680.233	599.273	679.249
E	7	826.302 826.421 (2)	809.275	728.316	808.291
A	8	897.339 897.534 (1)	880.313	799.353	879.328
Q	9	1025.398 1025.569 (1)	1008.371	927.412 927.501 (0)	1007.387 1007.479 (1)
R	10	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
S	10	-	-	-	-
T	9	1112.477	1095.451	1014.491	1094.467
F	8	1011.430 1011.458 (3) 506.161 [2+] (31)	994.403	913.444 457.184 [2+] (8)	993.419
P	7	864.361 864.392 (88) *432.826 [2+] (100)	847.335	766.375 *383.705 [2+] (8) 766.389 (14)	846.351
s	6	767.308 767.389 (6) *383.705 [2+] (8) 384.353 [2+] (5)	750.282	669.323	749.298
P	5	600.310 *600.039 (2)	583.284	-	582.300 *582.447 (48)
E	4	503.257	486.231	-	485.247
A	3	374.215 374.396 (8)	357.188	-	356.204
Q	2	303.178 303.269 (3)	286.151	-	285.167
R	1	175.119 175.179 (0)	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	59	28	47
0.5	54	28	51
1	46	24	52
2	36	21	58
3	30	19	63
4	23	15	65
5	20	13	65
10	12	7	58

Observed ions > 1%

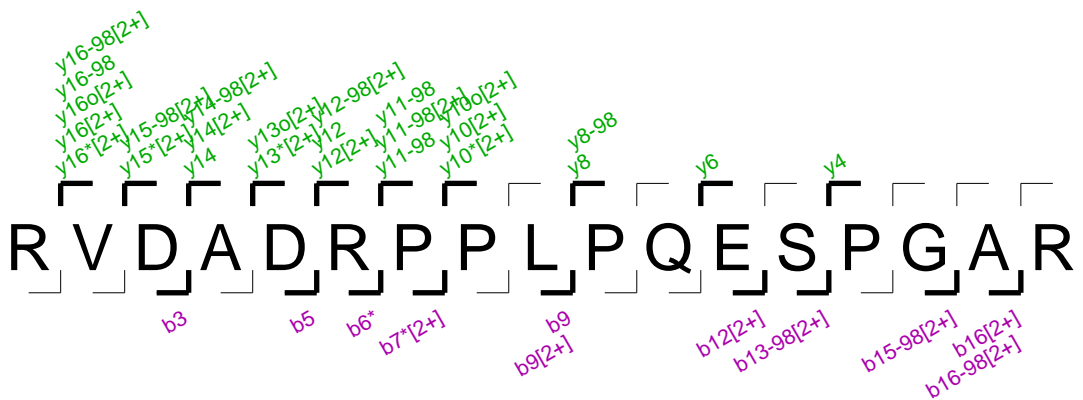
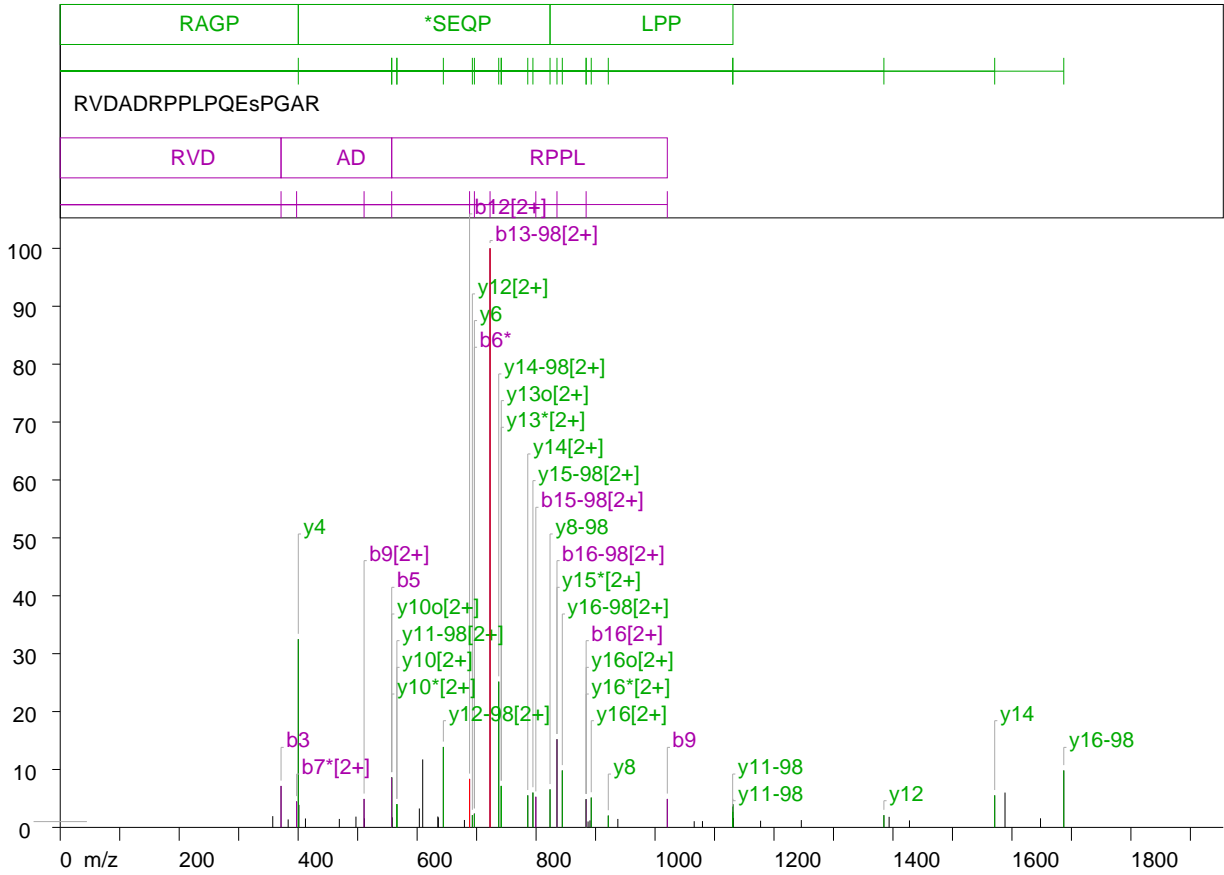
m/z	Intensity	% max	Assignment (delta)
244.965	33.40 <sub>2</sub>	1.05	
273.313	96.75 <sub>2</sub>	3.06	
298.339	65.46 <sub>2</sub>	2.07	
303.269	110.17 <sub>2</sub>	3.49	y2 (0.09)
318.205	839.57 <sub>2</sub>	26.60	b3o (0.05)
319.355	113.97 <sub>2</sub>	3.61	b3* (0.22)
335.702	120.88 <sub>2</sub>	3.83	b3 (-0.45)
374.396	276.03 <sub>2</sub>	8.74	y3 (0.18)
383.705	258.33 <sub>2</sub>	8.18	y7-98[2+] (0.01) : y6[2+] (-0.45)
384.353	184.35 <sub>2</sub>	5.84	y6[2+] (0.19)
432.826	3155.21 <sub>2</sub>	100	y7[2+] (0.14) : b4 (-0.38)
457.184	274.17 <sub>2</sub>	8.68	y8-98[2+] (-0.04)
458.010	153.56 <sub>2</sub>	4.86	c8[2+] (0.32)
506.161	1003.17 <sub>2</sub>	31.79	y8[2+] (-0.05)
506.857	765.39 <sub>2</sub>	24.25	
519.952	138.53 <sub>2</sub>	4.39	x8[2+] (-0.26)
528.734	330.08 <sub>2</sub>	10.46	
541.341	143.15 <sub>2</sub>	4.53	
542.147	191.43 <sub>2</sub>	6.06	
581.715	430.94 <sub>2</sub>	13.65	b5o (-0.48)
582.447	1537.91 <sub>2</sub>	48.74	b5o (0.25) : y5o (0.14)
585.443	203.72 <sub>2</sub>	6.45	
591.049	1663.07 <sub>2</sub>	52.70	
591.945	1057.36 <sub>2</sub>	33.51	
600.039	93.20 <sub>2</sub>	2.95	b5 (-0.16) : y5 (-0.27)
697.378	164.16 <sub>2</sub>	5.20	b6 (0.11)
727.346	97.41 <sub>2</sub>	3.08	
754.451	71.65 <sub>2</sub>	2.27	
756.304	62.45 <sub>2</sub>	1.97	
766.389	465.35 <sub>2</sub>	14.74	y7-98 (0.01)
767.389	199.11 <sub>2</sub>	6.31	y6 (0.08)
784.523	102.12 <sub>2</sub>	3.23	
826.421	89.97 <sub>2</sub>	2.85	b7 (0.11)
838.667	90.03 <sub>2</sub>	2.85	
842.444	65.85 <sub>2</sub>	2.08	
864.392	2780.23 <sub>2</sub>	88.11	y7 (0.03)
865.407	854.30 <sub>2</sub>	27.07	
883.346	35.69 <sub>2</sub>	1.13	
884.417	41.12 <sub>2</sub>	1.30	
897.534	45.09 <sub>2</sub>	1.42	b8 (0.19)
898.319	38.55 <sub>2</sub>	1.22	

1007.479	35.61,	1.12	b9o (0.09)
1011.458	120.01,	3.80	y8 (0.02)
1025.569	56.06,	1.77	b9 (0.17)
1026.348	38.72,	1.22	
1054.467	32.27,	1.02	

**S1905**

# ProPhosSI MS/MS report

Mass: 647.649994 Charge: 3+



## Cav3.2 human

(41) 1893 RVDADRPPLPQEsPGAR 1909 1939.926 (-0.0001) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
13	(1905)	Phospho (ST)	b12[2+] => b13-98[2+]; y4=>y8-98

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	9 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b12[2+] to b13-98[2+], transition y4 to y8-98 support unique phosphorylation at position 13
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	1/1	Five of Six ions found between y11 and y16
Proline directed fragmentation pattern	5/5	PASS: y11-98> y10-98 No proline ions at b7 NOTE: P-P is a low abundance fragmentation. No proline ions at y10-98 No proline ions at b8 PASS: y8-98> y7-98 PASS: b10< b9 NOTE: S-P is a low abundance fragmentation. PASS: y4> y3 PASS: b14-98< b13-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	10/6	ion 1 (mass: 722.592: intensity: 350119.19) assigned 1 times ion 2 (mass: 400.246: intensity: 113813.98) assigned 1 times ion 3 (mass: 737.167: intensity: 88128.05) assigned 1 times ion 4 (mass: 835.114: intensity: 53267.92) assigned 3 times ion 5 (mass: 644.082: intensity: 48651.29) assigned 1 times ion 6 (mass: 609.397: intensity: 41101.20) assigned 1 times ion 7 (mass: 1687.148: intensity: 34433.76) assigned 1 times ion 8 (mass: 844.078: intensity: 34433.76) assigned 1 times ion 9 (mass: 557.278: intensity: 30205.00) assigned 4 times ion 10 (mass: 688.175: intensity: 29310.47) assigned 1 times

## Ion Table

29 ions assigned of 32 ions above threshold (90%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
R	1	157.108	140.082	-	139.098
V	2	256.177	239.150	-	238.166
D	3	371.204 371.225 (7)	354.177	-	353.193
A	4	442.241	425.214	-	424.230
D	5	557.268 *557.278 (8)	540.241	-	539.257
R	6	713.369	696.342 *696.295 (2)	-	695.358
P	7	810.422	793.395 *397.369 [2+] (4)	-	792.411
P	8	907.475	890.448	-	889.464
L	9	1020.559 1020.643 (4) *510.825 [2+] (4)	1003.532	-	1002.548
P	10	1117.611	1100.585	-	1099.601
Q	11	1245.670	1228.643	-	1227.659
E	12	1374.713 688.175 [2+] (8)	1357.686	-	1356.702
s	13	1541.711	1524.684	1443.725 722.592 [2+] (100)	1523.700
P	14	1638.764	1621.737	1540.778	1620.753
G	15	1695.785	1678.759	1597.799 *799.581 [2+] (5)	1677.775
A	16	1766.822 *884.125 [2+] (4)	1749.796	1668.836 *835.114 [2+] (15)	1748.812
R	17	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
R	17	-	-	-	-
V	16	1784.833 *892.724 [2+] (5)	1767.806 *884.125 [2+] (4)	1686.847 1687.148 (9) 844.078 [2+] (9)	1766.822 *884.125 [2+] (4)
D	15	1685.764	1668.738 *835.114 [2+] (15)	1587.778 794.686 [2+] (6)	1667.754
A	14	1570.737 1570.994 (5) 786.000 [2+] (5)	1553.711	1472.752 737.167 [2+] (25)	1552.727
D	13	1499.700	1482.674 *741.443 [2+] (7)	1401.714	1481.690 *741.443 [2+] (7)
R	12	1384.673 692.873 [2+] (2) 1384.739 (2)	1367.647	1286.687 644.082 [2+] (13)	1366.663
P	11	1228.572	1211.546	1130.586 1130.977 (4) *565.992 [2+] (4) 1130.495 (2)	1210.562
P	10	1131.519 *565.992 [2+] (4)	1114.493 *557.278 [2+] (8)	1033.534	1113.509 *557.278 [2+] (8)
L	9	1034.467	1017.440	936.481	1016.456
P	8	921.383 921.381 (2)	904.356	823.397 823.441 (6)	903.372



Q	7	824.330	807.303	726.344	806.319
E	6	696.271 *696.295 (2)	679.245	598.285	678.261
s	5	567.229	550.202	469.243	549.218
P	4	400.230 400.246 (32)	383.204	-	382.220
G	3	303.178	286.151	-	285.167
A	2	246.156	229.130	-	228.146
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	95	52	54
0.5	76	48	63
1	53	39	73
2	32	29	90
3	27	24	88
4	23	22	95
5	19	18	94
10	6	6	100

### Observed ions > 1%

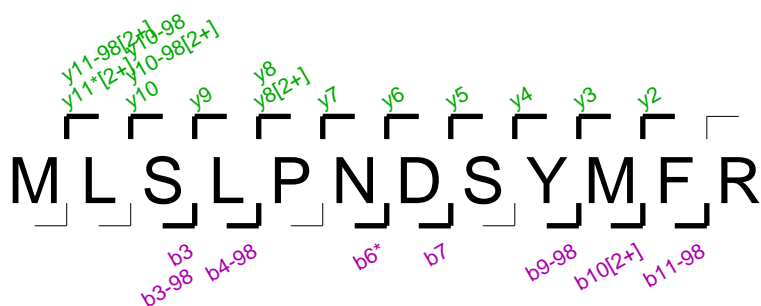
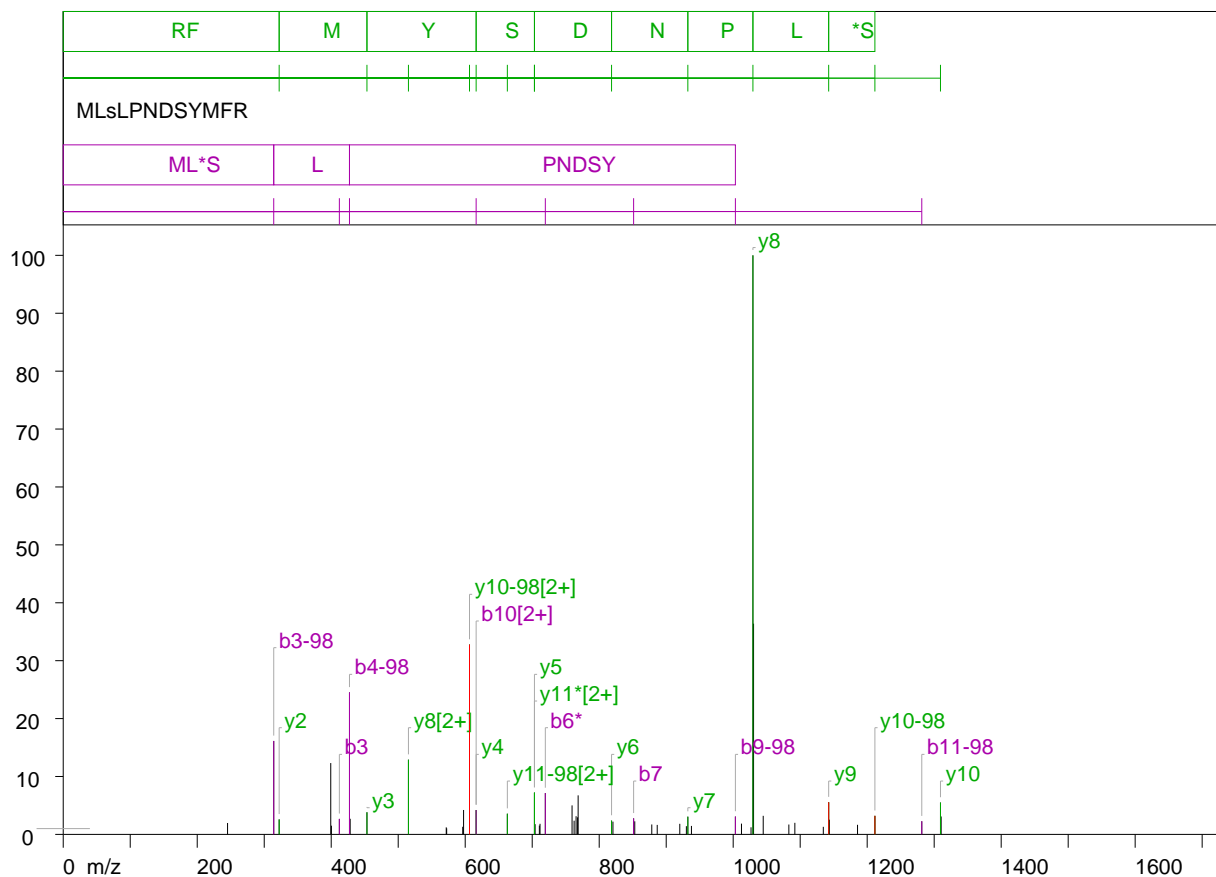
m/z	Intensity	% max	Assignment (delta)
357.288	6798.68 <sub>2</sub>	1.94	b6[2+] (0.09)
371.225	25072.07 <sub>2</sub>	7.16	b3 (0.02)
383.212	4817.45 <sub>2</sub>	1.37	a7o[2+] (0.49) : y4* (0.00) : z4 (0.00) : a7*[2+] (0.00)
397.369	15686.45 <sub>2</sub>	4.48	b7*[2+] (0.16) : a4* (0.14)
400.246	113813.98 <sub>2</sub>	32.50	y4 (0.01)
401.271	13628.23 <sub>2</sub>	3.89	
412.255	5392.96 <sub>2</sub>	1.54	y8-98[2+] (0.05) : y7[2+] (-0.41)
469.229	5115.51 <sub>2</sub>	1.46	y9-98[2+] (0.48) : y5-98 (-0.01)
497.154	6511.17 <sub>2</sub>	1.85	a9[2+] (0.36)
510.825	17214.72 <sub>2</sub>	4.91	b9[2+] (0.04) : a5o (-0.43)
511.477	5488.91 <sub>2</sub>	1.56	a5o (0.21)
557.278	30205.00 <sub>2</sub>	8.62	y10o[2+] (0.01) : b5 (0.00) : y10*[2+] (-0.47) : z10[2+] (-0.47)
558.366	6068.49 <sub>2</sub>	1.73	
565.992	14028.22 <sub>2</sub>	4.00	y11-98[2+] (0.19) : y10[2+] (-0.27)
603.727	11436.71 <sub>2</sub>	3.26	
609.397	41101.20 <sub>2</sub>	11.73	a11[2+] (0.05)
634.824	6600.00 <sub>2</sub>	1.88	

635.667	6038.68 <sub>3</sub>	1.72	
644.082	48651.29 <sub>3</sub>	13.89	y12-98[2+] (0.23)
679.527	4484.76 <sub>3</sub>	1.28	y6* (0.28) : z6 (0.28) : b12*[2+] (0.17)
688.175	29310.47 <sub>3</sub>	8.37	b12[2+] (0.31)
692.873	7386.86 <sub>3</sub>	2.10	y12[2+] (0.03)
696.295	8295.95 <sub>3</sub>	2.36	y6 (0.02) : b6* (-0.04) : c12[2+] (-0.07)
722.592	350119.19 <sub>3</sub>	100	b13-98[2+] (0.22)
737.167	88128.05 <sub>3</sub>	25.17	y14-98[2+] (0.28)
741.443	25072.07 <sub>3</sub>	7.16	y13o[2+] (0.09) : y13*[2+] (-0.39) : z13[2+] (-0.39)
786.000	19372.68 <sub>3</sub>	5.53	y14[2+] (0.12)
794.686	21059.75 <sub>3</sub>	6.01	y15-98[2+] (0.29)
799.581	18516.87 <sub>3</sub>	5.28	b15-98[2+] (0.17) : x14[2+] (-0.28)
823.441	22986.14 <sub>3</sub>	6.56	y8-98 (0.04)
835.114	53267.92 <sub>3</sub>	15.21	y15*[2+] (0.24) : z15[2+] (0.24) : b16-98[2+] (0.19)
844.078	34433.76 <sub>3</sub>	9.83	y16-98[2+] (0.15)
884.125	17043.96 <sub>3</sub>	4.86	y16o[2+] (0.20) : b16[2+] (0.20) : y16*[2+] (-0.28) : z16[2+] (-0.28)
887.339	3571.97 <sub>3</sub>	1.02	
890.594	4234.24 <sub>3</sub>	1.20	b8* (0.14)
892.724	18034.12 <sub>3</sub>	5.15	c16[2+] (0.29) : y16[2+] (-0.19)
921.381	7152.78 <sub>3</sub>	2.04	y8 (-0.00)
937.451	5115.51 <sub>3</sub>	1.46	
1020.643	17214.72 <sub>3</sub>	4.91	b9 (0.08)
1065.830	3742.86 <sub>3</sub>	1.06	
1079.726	3804.28 <sub>3</sub>	1.08	
1130.495	9381.96 <sub>3</sub>	2.67	y11-98 (-0.09)
1130.977	14028.22 <sub>3</sub>	4.00	y11-98 (0.39)
1131.577	5717.91 <sub>3</sub>	1.63	y10 (0.05)
1177.412	4028.16 <sub>3</sub>	1.15	
1245.894	4430.21 <sub>3</sub>	1.26	b11 (0.22)
1384.739	7386.86 <sub>3</sub>	2.10	y12 (0.06)
1393.503	6389.23 <sub>3</sub>	1.82	
1427.737	4218.03 <sub>3</sub>	1.20	
1570.994	19372.68 <sub>3</sub>	5.53	y14 (0.25)
1588.364	21059.75 <sub>3</sub>	6.01	
1648.046	5504.77 <sub>3</sub>	1.57	
1687.148	34433.76 <sub>3</sub>	9.83	y16-98 (0.30)

S1926

# ProPhosSI MS/MS report

Mass: 777.329104 Charge: 2+



## Cav3.2 human

(61) 1924 MLsLPNDSYMF 1935 1552.645 (-0.0030) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(1926)	Phospho (ST)	y9 => y10-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 ions present	1/1	6 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y9 to y10-98[2+] support unique phosphorylation at position 3  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y2 to y5.
Five of six sequential ions present	1/1	Five of Six ions found between y1 and y6 Five of Six ions found between y2 and y7 Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12
Proline directed fragmentation pattern	2/2	PASS: y8> y7 with ratio 32.6 PASS: b5-98< b4-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 1029.435: intensity: 13770.20) assigned 1 times ion 2 (mass: 1030.389: intensity: 5011.35) assigned 0 times ion 3 (mass: 606.404: intensity: 4512.41) assigned 1 times ion 4 (mass: 427.238: intensity: 3376.18) assigned 1 times ion 5 (mass: 314.196: intensity: 2222.28) assigned 1 times ion 6 (mass: 515.294: intensity: 1776.61) assigned 1 times ion 7 (mass: 399.293: intensity: 1696.50) assigned 0 times ion 8 (mass: 703.338: intensity: 993.24) assigned 3 times ion 9 (mass: 719.598: intensity: 983.05) assigned 1 times ion 10 (mass: 768.557: intensity: 928.38) assigned 0 times

## Ion Table

20 ions assigned of 35 ions above threshold (57%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
M	1	132.048	115.021	-	114.037
L	2	245.132	228.105	-	227.121
s	3	412.130 *412.165 (2)	395.104	314.144 314.196 (16)	394.120
L	4	525.214	508.188	427.228 427.238 (24)	507.204
P	5	622.267	605.241	524.281	604.256
N	6	736.310	719.283 719.598 (7)	638.324	718.299
D	7	851.337 851.380 (2)	834.310	753.351	833.326
S	8	938.369	921.342	840.383	920.358
Y	9	1101.432	1084.406	1003.446 1003.306 (3)	1083.422
M	10	1232.473 *616.337 [2+] (4)	1215.446	1134.487	1214.462
F	11	1379.541	1362.515	1281.555 1281.486 (2)	1361.531
R	12	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
M	12	-	-	-	-
L	11	1422.612	1405.586 *703.338 [2+] (7)	1324.626 662.895 [2+] (3)	1404.602
s	10	1309.528 1309.416 (5)	1292.502	1211.542 606.404 [2+] (32) 1211.498 (3)	1291.518
L	9	1142.530 1142.527 (5)	1125.503	-	1124.519
P	8	1029.446 515.294 [2+] (12) 1029.435 (100)	1012.419	-	1011.435
N	7	932.393 932.306 (3)	915.367	-	914.383
D	6	818.350 818.429 (2)	801.324	-	800.340
S	5	703.323 *703.338 (7)	686.297	-	685.313
Y	4	616.291 *616.337 (4)	599.265	-	598.281
M	3	453.228 453.353 (3)	436.201	-	435.217
F	2	322.187 *322.320 (2)	305.161	-	304.177
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	79	36	45

0.5	62	30	48
1	53	28	52
2	34	20	58
3	23	15	65
4	15	10	66
5	12	9	75
10	7	5	71

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
245.273	271.15 <sub>3</sub>	1.96	b2 (0.14)
314.196	2222.28 <sub>3</sub>	16.13	b3-98 (0.05)
322.320	356.75 <sub>3</sub>	2.59	y2 (0.13) : x4[2+] (-0.32)
399.293	1696.50 <sub>3</sub>	12.32	
400.292	206.88 <sub>3</sub>	1.50	y6o[2+] (-0.38)
412.165	368.62 <sub>3</sub>	2.67	b3 (0.03) : a7[2+] (-0.01)
427.238	3376.18 <sub>3</sub>	24.51	b4-98 (0.00)
428.286	371.44 <sub>3</sub>	2.69	
453.353	526.46 <sub>3</sub>	3.82	y3 (0.12)
515.294	1776.61 <sub>3</sub>	12.90	y8[2+] (0.06)
571.692	167.65 <sub>3</sub>	1.21	y9[2+] (-0.07)
572.317	143.76 <sub>3</sub>	1.04	
596.298	181.08 <sub>3</sub>	1.31	
597.557	580.54 <sub>3</sub>	4.21	
606.404	4512.41 <sub>3</sub>	32.76	y10-98[2+] (0.12)
616.337	579.20 <sub>3</sub>	4.20	y4 (0.04) : b10[2+] (-0.40)
662.895	492.21 <sub>3</sub>	3.57	y11-98[2+] (0.07)
703.338	993.24 <sub>3</sub>	7.21	y11*[2+] (0.04) : z11[2+] (0.04) : y5 (0.01)
704.358	243.48 <sub>3</sub>	1.76	
710.686	210.10 <sub>3</sub>	1.52	
711.674	252.09 <sub>3</sub>	1.83	y11[2+] (-0.13)
719.598	983.05 <sub>3</sub>	7.13	b6* (0.31)
759.471	689.85 <sub>3</sub>	5.00	
762.548	325.89 <sub>3</sub>	2.36	
765.482	432.33 <sub>3</sub>	3.13	
767.718	406.51 <sub>3</sub>	2.95	
768.557	928.38 <sub>3</sub>	6.74	
818.429	328.18 <sub>3</sub>	2.38	y6 (0.07)
820.497	303.15 <sub>3</sub>	2.20	
851.380	381.11 <sub>3</sub>	2.76	b7 (0.04)
853.070	310.89 <sub>3</sub>	2.25	
878.463	236.01 <sub>3</sub>	1.71	

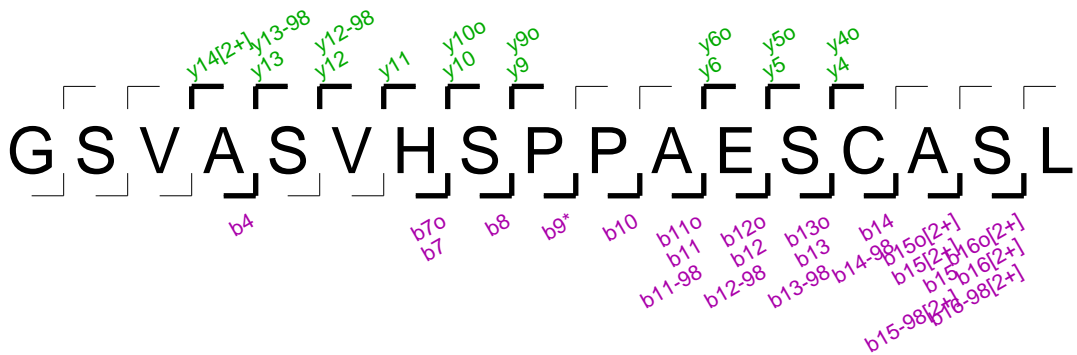
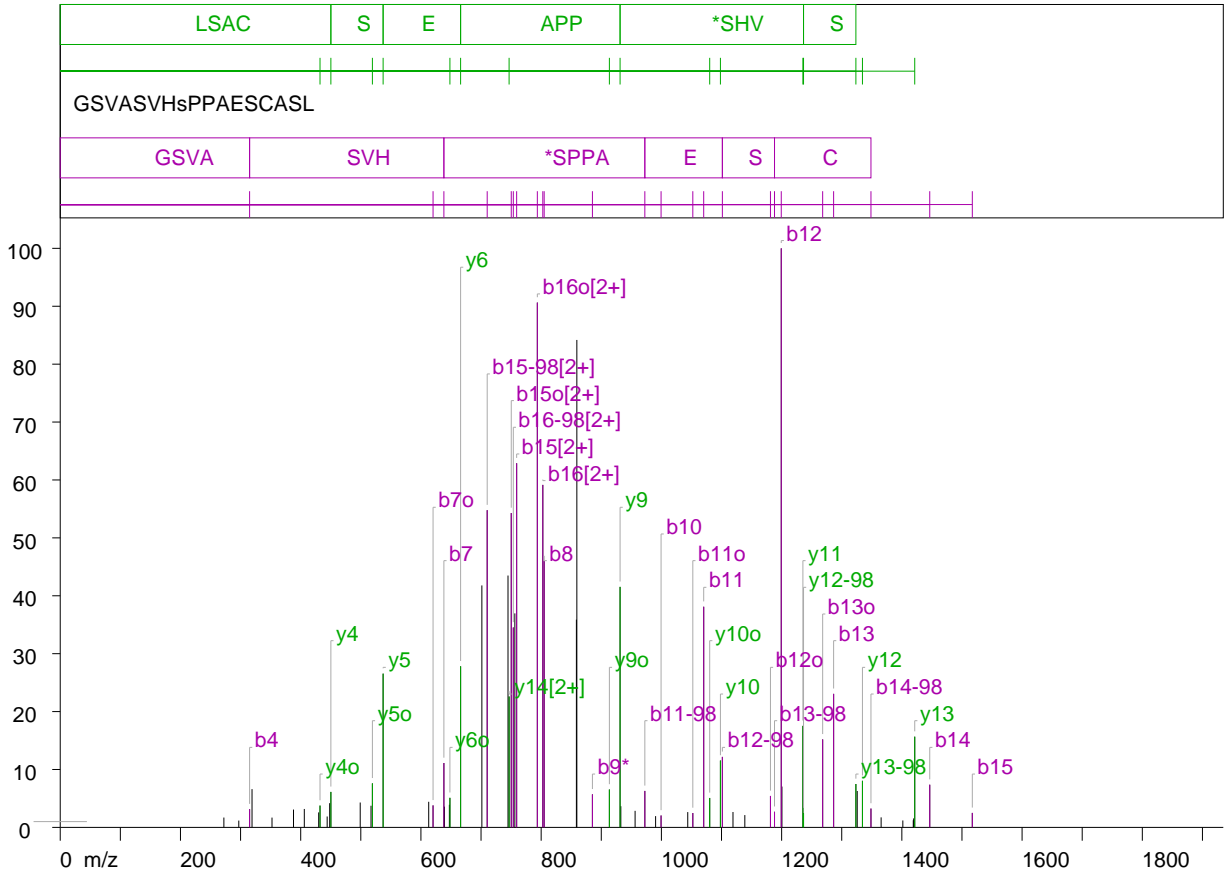
886.594	225.95 <sub>3</sub>	1.64	
920.296	251.71 <sub>3</sub>	1.82	b8o (-0.06)
930.114	195.41 <sub>3</sub>	1.41	
932.306	421.54 <sub>3</sub>	3.06	y7 (-0.08)
937.662	201.61 <sub>3</sub>	1.46	
1003.306	424.34 <sub>3</sub>	3.08	b9-98 (-0.14)
1012.361	256.14 <sub>3</sub>	1.86	y8* (-0.05) : z8 (-0.05)
1026.603	168.95 <sub>3</sub>	1.22	
1029.435	13770.20 <sub>3</sub>	100	y8 (-0.01)
1030.389	5011.35 <sub>3</sub>	36.39	
1044.831	441.78 <sub>3</sub>	3.20	
1083.078	234.76 <sub>3</sub>	1.70	b9o (-0.34)
1092.016	275.42 <sub>3</sub>	2.00	
1134.497	180.11 <sub>3</sub>	1.30	b10-98 (0.00)
1142.527	765.87 <sub>3</sub>	5.56	y9 (-0.00)
1143.512	349.80 <sub>3</sub>	2.54	
1185.594	228.09 <sub>3</sub>	1.65	
1211.498	441.52 <sub>3</sub>	3.20	y10-98 (-0.04)
1281.486	312.82 <sub>3</sub>	2.27	b11-98 (-0.06)
1309.416	757.07 <sub>3</sub>	5.49	y10 (-0.11)
1310.388	426.23 <sub>3</sub>	3.09	



S1970

# ProPhosSI MS/MS report

Mass: 868.372151 Charge: 2+



## Cav3.2 human

(60) 1963 GSVASVHsPPAESCASL 1979 1734.728 (0.0002) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
8	(1970)	Phospho (ST)	b7=>b11-98,y9=>y13-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b7 to b11-98,transition y9 to y13-98 support unique phosphorylation at position 8  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b11-98 to b14-98.
Five of six sequential ions present	1/1	Five of Six ions found between b10 and b15 Five of Six ions found between b11 and b16 Five of Six ions found between b12 and b17
Proline directed fragmentation pattern	1/1	NOTE: S-P is a low abundance fragmentation. PASS: y9> y8  No proline ions at b9-98  NOTE: P-P is a low abundance fragmentation. No proline ions at y8 No proline ions at b10-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	9/6	ion 1 (mass: 1199.415: intensity: 2120.36) assigned 1 times ion 2 (mass: 793.655: intensity: 1921.81) assigned 1 times ion 3 (mass: 859.365: intensity: 1784.99) assigned 0 times ion 4 (mass: 759.240: intensity: 1333.39) assigned 2 times ion 5 (mass: 802.761: intensity: 1254.18) assigned 1 times ion 6 (mass: 710.221: intensity: 1161.60) assigned 2 times ion 7 (mass: 750.255: intensity: 1151.12) assigned 1 times ion 8 (mass: 805.019: intensity: 974.87) assigned 1 times ion 9 (mass: 744.859: intensity: 922.30) assigned 1 times ion 10 (mass: 701.352: intensity: 886.00) assigned 1 times

## Ion Table

42 ions assigned of 62 ions above threshold (67%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
G	1	58.029	41.002	-	40.018
S	2	145.061	128.034	-	127.050
V	3	244.129	227.103	-	226.119
A	4	315.166 315.022 (3)	298.140	-	297.156
S	5	402.198	385.172	-	384.188
V	6	501.267	484.240	-	483.256
H	7	638.326 638.196 (11)	621.299	-	620.315 620.167 (3)
s	8	805.324 805.019 (45)	788.298	707.338	787.313
P	9	902.377	885.350 885.266 (5)	804.391	884.366
P	10	999.430 999.481 (2)	982.403	901.444	981.419
A	11	1070.467 1070.363 (38)	1053.440	972.481 972.442 (6)	1052.456 1052.293 (2)
E	12	1199.509 1199.415 (100)	1182.483	1101.523 1101.446 (12)	1181.499 1181.420 (5)
S	13	1286.541 1286.476 (23)	1269.515	1188.555 1188.159 (2)	1268.531 1268.272 (15)
C	14	1446.572 1446.410 (7)	1429.545	1348.586 1348.613 (3)	1428.561
A	15	1517.609 *759.240 [2+] (62) 1517.209 (2)	1500.583	1419.623 *710.221 [2+] (54)	1499.599 750.255 [2+] (54)
S	16	1604.641 802.761 [2+] (59)	1587.615	1506.655 753.682 [2+] (34)	1586.631 793.655 [2+] (90)
L	17	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
G	17	-	-	-	-
S	16	1678.714	1661.688	1580.728	1660.704
V	15	1591.682	1574.656	1493.696	1573.672
A	14	1492.614 746.661 [2+] (22)	1475.587	1394.628	1474.603
S	13	1421.577 1421.399 (15)	1404.550	1323.591 1323.547 (7)	1403.566
V	12	1334.545 1334.462 (8)	1317.518	1236.559 1236.468 (2)	1316.534
H	11	1235.476 1235.396 (17)	1218.450	1137.490	1217.466
s	10	1098.417 1098.200 (11)	1081.391	1000.431	1080.407 1080.374 (5)
P	9	931.419 931.298 (41)	914.392	-	913.408 913.513 (6)
P	8	834.366	817.340	-	816.356
A	7	737.314	720.287	-	719.303
E	6	666.276 666.003 (27)	649.250	-	648.266 648.214 (5)

S	5	537.234 537.107 (26)	520.207	-	519.223 519.263 (7)
C	4	450.202 450.206 (6)	433.175	-	432.191 *432.155 (3)
A	3	290.171	273.145	-	272.161
S	2	219.134	202.107	-	201.123
L	1	132.102	115.075	-	114.091

### Ion distribution

Threshold	Ion count	Matches	% matched
0	82	49	59
0.5	79	48	60
1	71	47	66
2	62	42	67
3	52	37	71
4	42	33	78
5	39	33	84
10	25	22	88

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
272.220	36.07 <sub>3</sub>	1.70	y3o (0.05)
297.022	24.96 <sub>3</sub>	1.17	a7o[2+] (0.35) : a7*[2+] (-0.13) : b4o (-0.13)
315.022	66.60 <sub>3</sub>	3.14	b4 (-0.14)
319.054	140.14 <sub>3</sub>	6.60	
352.302	35.91 <sub>3</sub>	1.69	
388.063	65.36 <sub>3</sub>	3.08	
406.025	67.51 <sub>3</sub>	3.18	
429.921	54.96 <sub>3</sub>	2.59	
432.155	79.86 <sub>3</sub>	3.76	x8[2+] (0.47) : y4o (-0.03)
444.015	39.93 <sub>3</sub>	1.88	
448.210	88.73 <sub>3</sub>	4.18	
450.206	129.94 <sub>3</sub>	6.12	y4 (0.00)
499.001	91.13 <sub>3</sub>	4.29	
516.976	79.32 <sub>3</sub>	3.74	
519.263	161.22 <sub>3</sub>	7.60	y5o (0.03)
537.107	563.05 <sub>3</sub>	26.55	y5 (-0.12)
612.938	93.79 <sub>3</sub>	4.42	
620.167	80.54 <sub>3</sub>	3.79	b7o (-0.14)
638.196	235.77 <sub>3</sub>	11.11	b7 (-0.13)
639.122	76.01 <sub>3</sub>	3.58	
647.316	82.83 <sub>3</sub>	3.90	
648.214	108.29 <sub>3</sub>	5.10	y6o (-0.05)

666.003	589.83 <sub>3</sub>	27.81	y6 (-0.27)
701.352	886.00 <sub>3</sub>	41.78	a14*[2+] (0.07)
710.221	1161.60 <sub>3</sub>	54.78	a14[2+] (0.42) : b15-98[2+] (-0.09)
744.859	922.30 <sub>3</sub>	43.49	a15[2+] (-0.45)
746.661	479.32 <sub>3</sub>	22.60	y14[2+] (-0.15)
750.255	1151.12 <sub>3</sub>	54.28	b15o[2+] (-0.04)
753.682	731.96 <sub>3</sub>	34.52	b16-98[2+] (-0.14)
756.248	783.67 <sub>3</sub>	36.95	
759.240	1333.39 <sub>3</sub>	62.88	b15[2+] (-0.06) : a8o (-0.07)
793.655	1921.81 <sub>3</sub>	90.63	b16o[2+] (-0.16)
802.761	1254.18 <sub>3</sub>	59.14	b16[2+] (-0.06)
805.019	974.87 <sub>3</sub>	45.97	b8 (-0.30)
858.602	760.83 <sub>3</sub>	35.88	
859.365	1784.99 <sub>3</sub>	84.18	
885.266	120.94 <sub>3</sub>	5.70	b9* (-0.08)
913.513	138.70 <sub>3</sub>	6.54	y9o (0.10)
931.298	880.76 <sub>3</sub>	41.53	y9 (-0.12)
932.540	77.57 <sub>3</sub>	3.65	
956.248	60.64 <sub>3</sub>	2.85	
972.442	133.55 <sub>3</sub>	6.29	b11-98 (-0.03)
990.379	41.29 <sub>3</sub>	1.94	
999.481	43.54 <sub>3</sub>	2.05	b10 (0.05)
1043.836	56.06 <sub>3</sub>	2.64	
1052.293	52.58 <sub>3</sub>	2.47	b11o (-0.16)
1070.363	808.03 <sub>3</sub>	38.10	b11 (-0.10)
1080.374	107.79 <sub>3</sub>	5.08	y10o (-0.03)
1098.200	244.80 <sub>3</sub>	11.54	y10 (-0.21)
1101.446	258.14 <sub>3</sub>	12.17	b12-98 (-0.07)
1119.095	56.32 <sub>3</sub>	2.65	
1138.806	45.09 <sub>3</sub>	2.12	
1181.420	115.16 <sub>3</sub>	5.43	b12o (-0.07)
1188.159	57.09 <sub>3</sub>	2.69	b13-98 (-0.39)
1199.415	2120.36 <sub>3</sub>	100	b12 (-0.09)
1200.519	149.58 <sub>3</sub>	7.05	
1235.396	371.77 <sub>3</sub>	17.53	y11 (-0.08)
1236.468	51.95 <sub>3</sub>	2.45	y12-98 (-0.09)
1268.272	322.28 <sub>3</sub>	15.19	b13o (-0.25)
1286.476	488.97 <sub>3</sub>	23.06	b13 (-0.06)
1323.547	158.90 <sub>3</sub>	7.49	y13-98 (-0.04)
1325.756	133.30 <sub>3</sub>	6.28	
1334.462	170.57 <sub>3</sub>	8.04	y12 (-0.08)
1348.613	68.94 <sub>3</sub>	3.25	b14-98 (0.02)

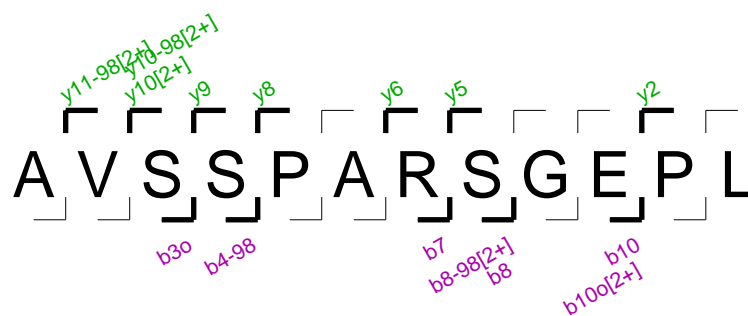
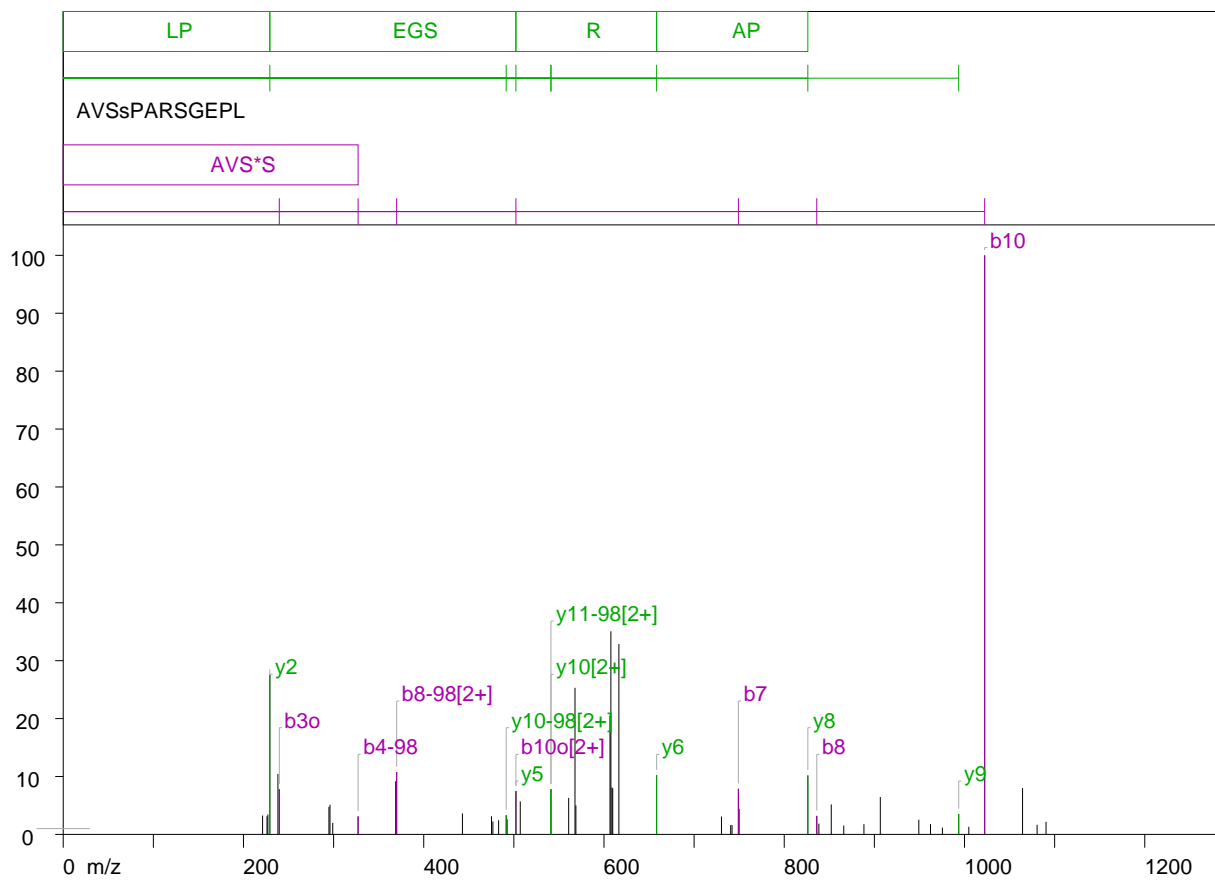
1365.516	36.73 <sub>,</sub>	1.73	
1401.646	25.41 <sub>,</sub>	1.19	a14* (0.09)
1418.955	26.21 <sub>,</sub>	1.23	a14 (0.37)
1419.642	32.95 <sub>,</sub>	1.55	b15-98 (0.01)
1421.399	332.17 <sub>,</sub>	15.66	y13 (-0.17)
1446.410	156.28 <sub>,</sub>	7.37	b14 (-0.16)
1517.209	53.04 <sub>,</sub>	2.50	b15 (-0.40)

S1987



# ProPhosSI MS/MS report

Mass: 625.792499 Charge: 2+



## Cav3.2 human

(42) 1984 AVSSPARSGEPL 1995 1249.570 (-0.0010) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
4	(1987)	Phospho (ST)	y9

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	4 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	No transitions found to support unique phosphorylation at position 4  
Four Sequential b or y ions	0/1	Sequence of four y or b ions not observed
Five of six sequential ions present	0/1	
Proline directed fragmentation pattern	3/3	NOTE: S-P is a low abundance fragmentation. PASS: y8> y7  PASS: b5-98< b4-98  PASS: y2> y1  No proline ions at b11-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	6/6	ion 1 (mass: 1022.395: intensity: 901.03) assigned 1 times ion 2 (mass: 607.662: intensity: 316.03) assigned 0 times ion 3 (mass: 616.546: intensity: 296.17) assigned 0 times ion 4 (mass: 229.234: intensity: 248.45) assigned 1 times ion 5 (mass: 567.808: intensity: 228.09) assigned 0 times ion 6 (mass: 606.675: intensity: 184.52) assigned 0 times ion 7 (mass: 369.963: intensity: 96.93) assigned 1 times ion 8 (mass: 238.198: intensity: 94.09) assigned 1 times ion 9 (mass: 658.407: intensity: 92.09) assigned 1 times ion 10 (mass: 826.190: intensity: 91.76) assigned 1 times

## Ion Table

18 ions assigned of 41 ions above threshold (43%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
A	1	72.044	55.018	-	54.034
V	2	171.113	154.086	-	153.102

S	3	258.145	241.118	-	240.134 239.736 (7)
s	4	425.143	408.117	327.157 327.149 (3)	407.133
P	5	522.196	505.169	424.210	504.185
A	6	593.233	576.207	495.247	575.223
R	7	749.334 749.102 (7)	732.308	651.348	731.324
S	8	836.366 836.095 (3)	819.340	738.380 369.963 [2+] (10)	818.356
G	9	893.388	876.361	795.402	875.377
E	10	1022.430 1022.395 (100)	1005.404	924.444	1004.420 *502.267 [2+] (7)
P	11	1119.483	1102.457	1021.497	1101.473
L	12	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
A	12	-	-	-	-
V	11	1179.541	1162.514	1081.555 *541.152 [2+] (7)	1161.530
S	10	1080.472 *541.152 [2+] (7)	1063.446	982.486 491.493 [2+] (3)	1062.462
s	9	993.440 993.574 (3)	976.414	895.454	975.430
P	8	826.442 826.190 (10)	809.415	-	808.431
A	7	729.389	712.363	-	711.379
R	6	658.352 658.407 (10)	641.325	-	640.341
S	5	502.251 *502.267 (7)	485.224	-	484.240
G	4	415.219	398.192	-	397.208
E	3	358.197	341.171	-	340.187
P	2	229.155 229.234 (27)	212.128	-	211.144
L	1	132.102	115.075	-	114.091

### Ion distribution

Threshold	Ion count	Matches	% matched
0	52	21	40
0.5	52	21	40
1	51	21	41
2	41	18	43
3	36	17	47
4	26	11	42
5	23	10	43
10	10	6	60

Observed ions > 1%

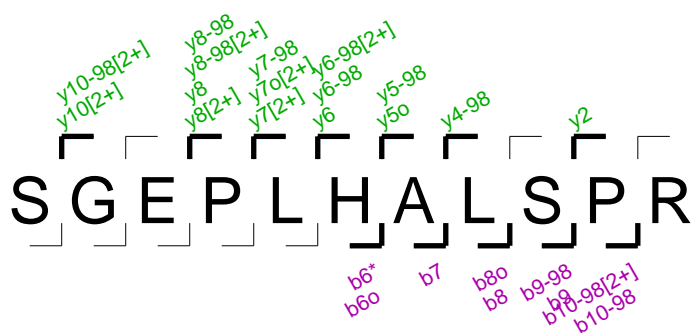
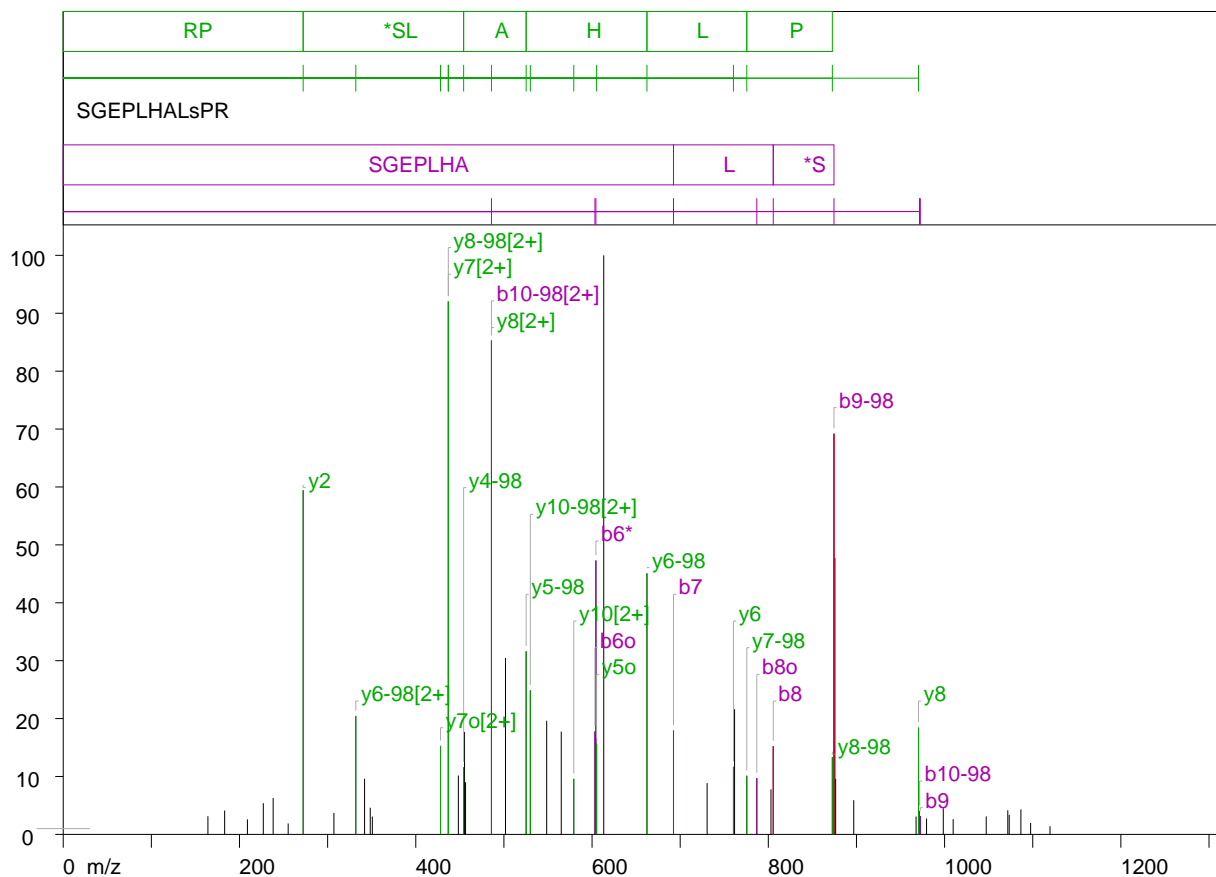
m/z	Intensity	% max	Assignment (delta)
221.183	29.32 <sub>3</sub>	3.25	c4[2+] (-0.40)
226.089	28.13 <sub>3</sub>	3.12	
227.071	31.02 <sub>3</sub>	3.44	
229.234	248.45 <sub>3</sub>	27.57	y2 (0.07)
238.198	94.09 <sub>3</sub>	10.44	a5o[2+] (-0.40)
239.736	70.19 <sub>3</sub>	7.78	b3o (-0.39)
294.822	42.76 <sub>3</sub>	4.74	
295.975	46.22 <sub>3</sub>	5.12	
299.042	17.93 <sub>3</sub>	1.98	
327.149	27.99 <sub>3</sub>	3.10	b4-98 (-0.00)
368.885	82.74 <sub>3</sub>	9.18	
369.963	96.93 <sub>3</sub>	10.75	b8-98[2+] (0.26)
442.927	32.60 <sub>3</sub>	3.61	x4 (-0.28)
475.215	28.22 <sub>3</sub>	3.13	
476.741	20.08 <sub>3</sub>	2.22	a5* (-0.43)
483.089	21.98 <sub>3</sub>	2.43	
491.493	30.01 <sub>3</sub>	3.33	y10-98[2+] (-0.25)
492.505	23.53 <sub>3</sub>	2.61	
502.267	67.44 <sub>3</sub>	7.48	y5 (0.01) : b10o[2+] (-0.44)
507.095	51.35 <sub>3</sub>	5.69	
541.152	70.34 <sub>3</sub>	7.80	y10[2+] (0.41) : y11-98[2+] (-0.12)
560.820	56.83 <sub>3</sub>	6.30	
567.808	228.09 <sub>3</sub>	25.31	
568.831	45.01 <sub>3</sub>	4.99	c11[2+] (0.07)
606.675	184.52 <sub>3</sub>	20.47	
607.662	316.03 <sub>3</sub>	35.07	
608.870	72.99 <sub>3</sub>	8.10	
609.695	71.61 <sub>3</sub>	7.94	
616.546	296.17 <sub>3</sub>	32.87	
658.407	92.09 <sub>3</sub>	10.22	y6 (0.05)
730.352	27.90 <sub>3</sub>	3.09	
740.569	14.31 <sub>3</sub>	1.58	
742.063	14.74 <sub>3</sub>	1.63	
749.102	71.03 <sub>3</sub>	7.88	b7 (-0.23)
749.919	39.97 <sub>3</sub>	4.43	
826.190	91.76 <sub>3</sub>	10.18	y8 (-0.25)
836.095	28.83 <sub>3</sub>	3.19	b8 (-0.27)
838.429	16.73 <sub>3</sub>	1.85	
852.171	46.64 <sub>3</sub>	5.17	
866.032	13.88 <sub>3</sub>	1.54	
888.428	15.89 <sub>3</sub>	1.76	

906.578	58.18,	6.45	
949.319	22.80,	2.53	
962.296	15.84,	1.75	
975.484	10.56,	1.17	y9o (0.05)
993.574	31.64,	3.51	y9 (0.13)
1004.767	11.79,	1.30	b10o (0.34)
1022.395	901.03,	100	b10 (-0.03)
1064.403	72.01,	7.99	
1080.575	14.90,	1.65	y10 (0.10)
1090.489	19.57	2.17	

S1999

# ProPhosSI MS/MS report

Mass: 622.294496 Charge: 2+



## Cav3.2 human

(31) 1991 SGEPLHALsPR 2001 1242.575 (-0.0024) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
9	(1999)	Phospho (ST)	b8 => b9-98;y2=>y5-98

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	8 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b8 to b9-98,transition y2 to y5-98 support unique phosphorylation at position 9  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b7 to b10-98. Sequence of four y ions found from y4-98 to y7-98.
Five of six sequential ions present	1/1	Five of Six ions found between y2 and y7 Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10
Proline directed fragmentation pattern	2/3	PASS: y8-98> y7-98 with ratio 9.08  No proline ions at b4  NOTE: S-P is a low abundance fragmentation. PASS: y2> y1  FAIL: b10-98> b9-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 613.269: intensity: 266.73) assigned 0 times ion 2 (mass: 436.921: intensity: 245.49) assigned 2 times ion 3 (mass: 485.867: intensity: 227.47) assigned 2 times ion 4 (mass: 874.484: intensity: 184.57) assigned 1 times ion 5 (mass: 272.229: intensity: 158.53) assigned 1 times ion 6 (mass: 875.539: intensity: 127.30) assigned 0 times ion 7 (mass: 604.360: intensity: 126.19) assigned 1 times ion 8 (mass: 662.305: intensity: 120.27) assigned 1 times ion 9 (mass: 525.242: intensity: 84.35) assigned 1 times ion 10 (mass: 501.789: intensity: 81.27) assigned 0 times



## Ion Table

26 ions assigned of 53 ions above threshold (49%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
S	1	88.039	71.013	-	70.029
G	2	145.061	128.034	-	127.050
E	3	274.103	257.077	-	256.093
P	4	371.156	354.130	-	353.146
L	5	484.240	467.214	-	466.230
H	6	621.299	604.273 604.360 (47)	-	603.289 603.289 (17)
A	7	692.336 692.411 (17)	675.310	-	674.326
L	8	805.420 805.628 (15)	788.394	-	787.410 786.932 (9)
s	9	972.419 972.449 (3)	955.392	874.433 874.484 (69)	954.408
P	10	1069.471	1052.445	971.486 *485.867 [2+] (85) 971.533 (4)	1051.461
R	11	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
S	11	-	-	-	-
G	10	1156.551 579.244 [2+] (9)	1139.525	1058.565 529.972 [2+] (24)	1138.541
E	9	1099.530	1082.503	1001.544	1081.519
P	8	970.487 *485.867 [2+] (85) 970.419 (18)	953.461	872.501 *436.921 [2+] (92) 872.639 (13)	952.476
L	7	873.434 *436.921 [2+] (92)	856.408	775.448 775.576 (10)	855.424 428.068 [2+] (15)
H	6	760.350 *760.423 (11)	743.324	662.364 662.305 (45) 331.960 [2+] (20)	742.340
A	5	623.291	606.265	525.305 525.242 (31)	605.281 605.179 (15)
L	4	552.254	535.228	454.268 454.285 (11)	534.244
s	3	439.170	422.144	341.184	421.160
P	2	272.172 272.229 (59)	255.145	-	254.161
R	1	175.119	158.092	-	157.108

## Ion distribution

Threshold	Ion count	Matches	% matched
0	56	27	48
0.5	56	27	48
1	56	27	48
2	53	26	49
3	50	26	52

4	43	25	58
5	37	22	59
10	27	19	70

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
164.167	8.38 <sub>,</sub>	3.14	
183.139	10.99 <sub>,</sub>	4.12	
208.988	6.93 <sub>,</sub>	2.59	
226.995	14.39 <sub>,</sub>	5.39	
238.190	16.77 <sub>,</sub>	6.28	
255.230	5.04 <sub>,</sub>	1.88	z2 (0.08) : y2* (0.08)
272.229	158.53 <sub>,</sub>	59.43	y2 (0.05)
307.112	9.89 <sub>,</sub>	3.70	
331.960	54.59 <sub>,</sub>	20.46	y6-98[2+] (0.27)
341.898	25.65 <sub>,</sub>	9.61	
348.337	12.27 <sub>,</sub>	4.60	
350.706	8.21 <sub>,</sub>	3.07	
428.068	40.77 <sub>,</sub>	15.28	y7o[2+] (-0.14)
436.921	245.49 <sub>,</sub>	92.03	y8-98[2+] (0.16) : y7[2+] (-0.30)
448.305	27.13 <sub>,</sub>	10.17	
454.285	30.90 <sub>,</sub>	11.58	y4-98 (0.01)
455.338	47.22 <sub>,</sub>	17.70	
456.490	24.03 <sub>,</sub>	9.00	a5 (0.24)
485.867	227.47 <sub>,</sub>	85.28	y8[2+] (0.11) : b10-98[2+] (-0.37)
501.789	81.27 <sub>,</sub>	30.46	
525.242	84.35 <sub>,</sub>	31.62	y5-98 (-0.06)
529.972	66.33 <sub>,</sub>	24.86	y10-98[2+] (0.18)
548.550	52.34 <sub>,</sub>	19.62	
565.054	47.35 <sub>,</sub>	17.75	
579.244	25.61 <sub>,</sub>	9.60	y10[2+] (0.46)
603.289	47.43 <sub>,</sub>	17.78	b6o (-0.00)
604.360	126.19 <sub>,</sub>	47.31	b6* (0.08)
605.179	41.77 <sub>,</sub>	15.66	y5o (-0.10)
613.269	266.73 <sub>,</sub>	100	
662.305	120.27 <sub>,</sub>	45.09	y6-98 (-0.05)
692.411	47.84 <sub>,</sub>	17.93	b7 (0.07)
730.556	23.63 <sub>,</sub>	8.85	
760.423	31.11 <sub>,</sub>	11.66	y6 (0.07) : a8* (0.02)
761.718	57.67 <sub>,</sub>	21.62	
775.576	27.02 <sub>,</sub>	10.13	y7-98 (0.12)

786.932	25.93 <sub>,</sub>	9.72	b8o (-0.47)
803.001	20.74 <sub>,</sub>	7.77	
805.628	40.64 <sub>,</sub>	15.23	b8 (0.20)
872.639	35.65 <sub>,</sub>	13.36	y8-98 (0.13)
874.484	184.57 <sub>,</sub>	69.19	b9-98 (0.05)
875.539	127.30 <sub>,</sub>	47.72	
876.400	25.57 <sub>,</sub>	9.58	
896.904	15.76 <sub>,</sub>	5.90	
967.642	8.21 <sub>,</sub>	3.07	
970.419	49.20 <sub>,</sub>	18.44	y8 (-0.06)
971.533	10.79 <sub>,</sub>	4.04	b10-98 (0.04)
972.449	8.47 <sub>,</sub>	3.17	b9 (0.02)
979.534	7.33 <sub>,</sub>	2.74	
998.523	12.01 <sub>,</sub>	4.50	x8 (0.04)
1009.743	7.03 <sub>,</sub>	2.63	
1047.228	8.27 <sub>,</sub>	3.10	
1071.728	11.13 <sub>,</sub>	4.17	
1073.310	8.97 <sub>,</sub>	3.36	
1086.568	11.52 <sub>,</sub>	4.31	c10 (0.06)
1097.614	5.26 <sub>,</sub>	1.97	
1119.633	3.77	1.41	

S2057



## Cav3.2 human

(62) 2044 TPVRPVTQGGSLQsPPR 2060 1855.930 (-0.0029) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
14	(2057)	Phospho (ST)	b13[2+] => b14-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	4 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b13[2+] to b14-98[2+] support unique phosphorylation at position 14  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b7 to b10.
Five of six sequential ions present	1/1	Five of Six ions found between b6 and b11 Five of Six ions found between b7 and b12 Five of Six ions found between b8 and b13 Five of Six ions found between b9 and b14
Proline directed fragmentation pattern	3/4	FAIL: y16-98< y15-98 No proline ions at b2 No proline ions at y13-98 PASS: b5< b4 NOTE: S-P is a low abundance fragmentation. PASS: y3> y2 PASS: b15-98< b14-98 NOTE: P-P is a low abundance fragmentation. No proline ions at y2 No proline ions at b16-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	7/6	ion 1 (mass: 696.034: intensity: 7972.73) assigned 1 times ion 2 (mass: 661.609: intensity: 7369.04) assigned 1 times ion 3 (mass: 369.326: intensity: 7250.47) assigned 1 times ion 4 (mass: 608.250: intensity: 6265.53) assigned 0 times ion 5 (mass: 536.189: intensity: 6225.43) assigned 1 times ion 6 (mass: 1071.371: intensity: 6225.43) assigned 0 times ion 7 (mass: 687.033: intensity: 6055.51) assigned 0 times ion 8 (mass: 540.931: intensity: 5708.79) assigned 1 times ion 9 (mass: 1080.854: intensity: 5708.79) assigned 1 times ion 10 (mass: 664.304: intensity: 5446.07) assigned 1 times

## Ion Table

51 ions assigned of 83 ions above threshold (61%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
T	1	102.055	85.028	-	84.044
P	2	199.108	182.081	-	181.097
V	3	298.176 298.352 (6)	281.150	-	280.166
R	4	454.277 *454.304 (23)	437.251	-	436.267
P	5	551.330	534.304	-	533.320
V	6	650.399	633.372	-	632.388
T	7	751.446 751.559 (30)	734.420	-	733.436
Q	8	879.505 879.451 (34) *440.520 [2+] (42)	862.478 *431.481 [2+] (28)	-	861.494 *431.481 [2+] (28)
G	9	936.526 936.875 (25) 468.941 [2+] (25)	919.500	-	918.516
G	10	993.548 993.824 (17) 993.571 (11)	976.521	-	975.537
S	11	1080.580 540.931 [2+] (71) 1080.565 (14) 1080.854 (71)	1063.553 *531.924 [2+] (42)	-	1062.569 1062.840 (42) *531.924 [2+] (42)
L	12	1193.664	1176.637	-	1175.653
Q	13	1321.722 661.609 [2+] (92)	1304.696 *652.585 [2+] (30)	-	1303.712 *652.585 [2+] (30) 1304.164 (30)
s	14	1488.721	1471.694	1390.735 696.034 [2+] (100)	1470.710
P	15	1585.773	1568.747	1487.788	1567.763
P	16	1682.826	1665.800	1584.840	1664.816
R	17	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
T	17	-	-	-	-
P	16	1755.890	1738.864	1657.904	1737.880
V	15	1658.837 830.098 [2+] (49) 1659.189 (49)	1641.811 *820.984 [2+] (15)	1560.852 781.176 [2+] (21)	1640.827 *820.984 [2+] (15) 1640.960 (15)
R	14	1559.769 1559.721 (7)	1542.743 *1543.169 (11)	1461.783	1541.759 1541.394 (4)
P	13	1403.668 1403.594 (12) 702.300 [2+] (12)	1386.641	1305.682	1385.657
V	12	1306.615	1289.589	1208.629	1288.605
T	11	1207.547 1207.759 (29)	1190.520	1109.561	1189.536
Q	10	1106.499 553.753 [2+] (37) 1106.499 (37)	1089.473	1008.513	1088.489
G	9	978.440 489.883 [2+] (31) 978.356 (29) 978.758 (31)	961.414 *480.882 [2+] (24)	880.455 880.546 (29) *440.520 [2+] (42)	960.430 960.756 (24) *480.882 [2+] (24)

G	8	921.419	904.392	823.433	903.408
S	7	864.398 864.480 (14)	847.371	766.412	846.387
L	6	777.366 389.199 [2+] (12) 777.409 (25)	760.339	679.380	759.355
Q	5	664.281 332.937 [2+] (13) 664.304 (68)	647.255	566.296	646.271
s	4	536.223 536.189 (78)	519.196	438.237 438.356 (15)	518.212
P	3	369.225 369.326 (90)	352.198	-	351.214 351.411 (6)
P	2	272.172	255.145	-	254.161
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	90	53	58
0.5	90	53	58
1	90	53	58
2	83	51	61
3	80	51	63
4	79	51	64
5	77	50	64
10	65	46	70

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
197.168	169.43 <sub>s</sub>	2.12	
199.110	130.33 <sub>s</sub>	1.63	b2 (0.00) : x3[2+] (-0.00)
212.168	129.65 <sub>s</sub>	1.62	
230.125	219.33 <sub>s</sub>	2.75	
242.293	121.97 <sub>s</sub>	1.52	
254.361	131.81 <sub>s</sub>	1.65	y2o (0.19)
298.352	550.42 <sub>s</sub>	6.90	b3 (0.17)
332.937	1103.41 <sub>s</sub>	13.83	y5[2+] (0.29)
351.411	521.93 <sub>s</sub>	6.54	y3o (0.19)
353.247	907.77 <sub>s</sub>	11.38	a7o[2+] (0.02) : a7*[2+] (-0.46)
369.326	7250.47 <sub>s</sub>	90.94	y3 (0.10)
370.295	1149.73 <sub>s</sub>	14.42	
389.199	1030.73 <sub>s</sub>	12.92	y6[2+] (0.01)
431.481	2238.25 <sub>s</sub>	28.07	b8o[2+] (0.22) : b8*[2+] (-0.26)
438.356	1246.91 <sub>s</sub>	15.63	y4-98 (0.11)
440.520	3391.99 <sub>s</sub>	42.54	b8[2+] (0.26) : y9-98[2+] (-0.21)



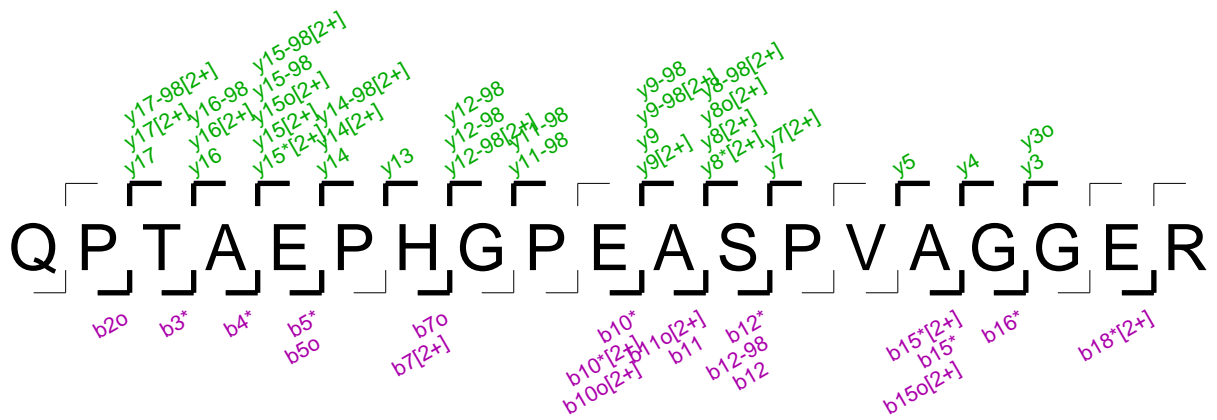
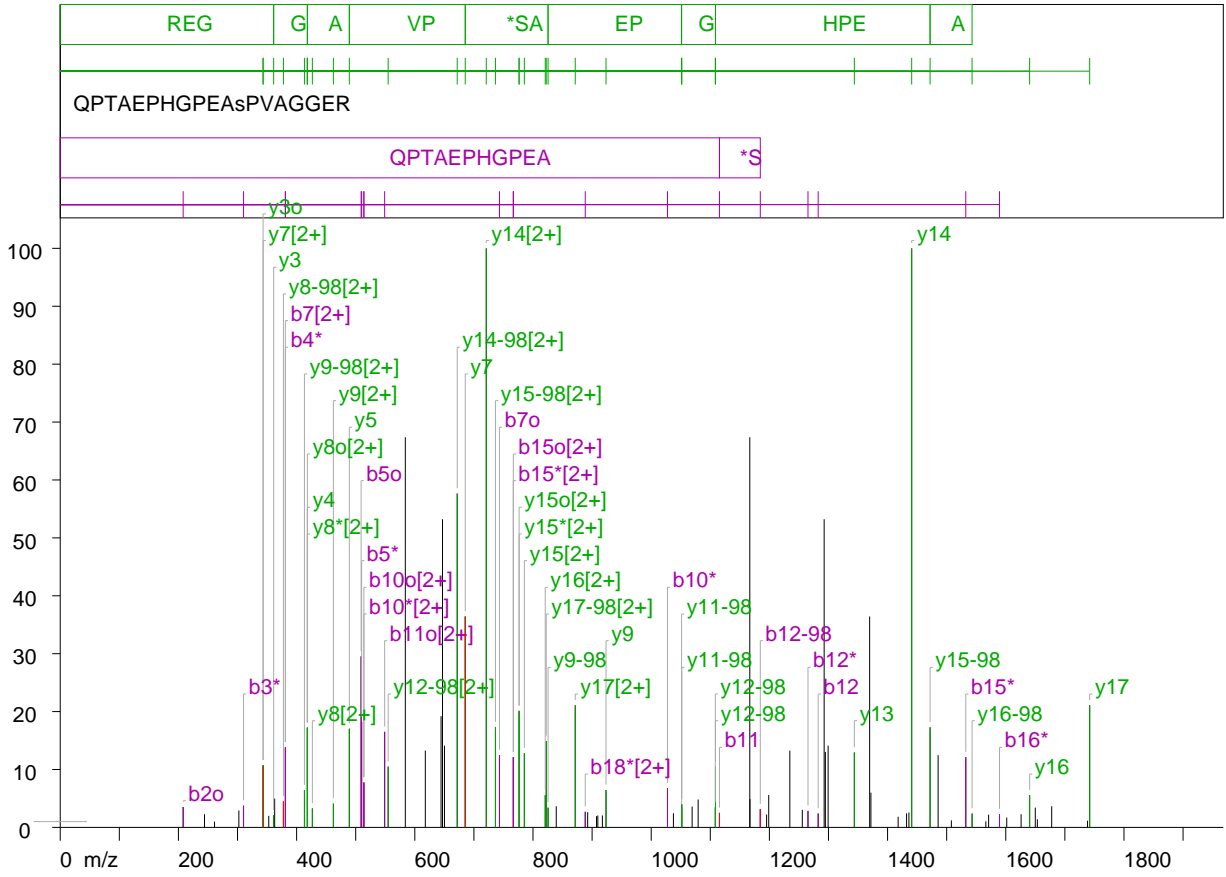
454.304	1834.20 <sub>3</sub>	23.00	b4 (0.02) : a9[2+] (-0.46)
468.941	2005.57 <sub>3</sub>	25.15	b9[2+] (0.17)
480.882	1966.22 <sub>3</sub>	24.66	y9o[2+] (0.16) : y9*[2+] (-0.32) : z9[2+] (-0.32)
489.883	2500.58 <sub>3</sub>	31.36	y9[2+] (0.15)
531.924	3387.23 <sub>3</sub>	42.48	b11o[2+] (0.13) : b11*[2+] (-0.35)
536.189	6225.43 <sub>3</sub>	78.08	y4 (-0.03)
540.931	5708.79 <sub>3</sub>	71.60	b11[2+] (0.13)
553.753	2975.43 <sub>3</sub>	37.32	y10[2+] (-0.00)
579.628	2623.18 <sub>3</sub>	32.90	
607.547	3042.84 <sub>3</sub>	38.16	
608.250	6265.53 <sub>3</sub>	78.58	
652.585	2404.02 <sub>3</sub>	30.15	b13o[2+] (0.22) : b13*[2+] (-0.26)
661.609	7369.04 <sub>3</sub>	92.42	b13[2+] (0.24)
664.304	5446.07 <sub>3</sub>	68.30	y5 (0.02)
687.033	6055.51 <sub>3</sub>	75.95	
696.034	7972.73 <sub>3</sub>	100	b14-98[2+] (0.16)
696.978	1557.46 <sub>3</sub>	19.53	
702.300	1000.35 <sub>3</sub>	12.54	y13[2+] (-0.03)
751.559	2406.39 <sub>3</sub>	30.18	b7 (0.11)
777.409	2038.71 <sub>3</sub>	25.57	y6 (0.04)
778.455	1297.30 <sub>3</sub>	16.27	
781.176	1685.31 <sub>3</sub>	21.13	y15-98[2+] (0.24)
820.984	1273.47 <sub>3</sub>	15.97	y15o[2+] (0.06) : y15*[2+] (-0.42) : z15[2+] (-0.42)
830.098	3965.60 <sub>3</sub>	49.73	y15[2+] (0.17)
830.972	1060.34 <sub>3</sub>	13.29	
864.480	1153.74 <sub>3</sub>	14.47	y7 (0.08)
879.451	2785.35 <sub>3</sub>	34.93	b8 (-0.05)
880.546	2344.82 <sub>3</sub>	29.41	y9-98 (0.09)
936.875	2005.57 <sub>3</sub>	25.15	b9 (0.34)
960.756	1966.22 <sub>3</sub>	24.66	y9o (0.32)
978.356	2339.57 <sub>3</sub>	29.34	y9 (-0.08)
978.758	2500.58 <sub>3</sub>	31.36	y9 (0.31)
993.571	899.94 <sub>3</sub>	11.28	b10 (0.02)
993.824	1425.09 <sub>3</sub>	17.87	b10 (0.27)
1034.951	1148.07 <sub>3</sub>	14.39	a11o (0.37)
1052.183	593.16 <sub>3</sub>	7.43	a11 (-0.40)
1062.840	3387.23 <sub>3</sub>	42.48	b11o (0.27)
1071.371	6225.43 <sub>3</sub>	78.08	
1080.565	1145.86 <sub>3</sub>	14.37	b11 (-0.01)
1080.854	5708.79 <sub>3</sub>	71.60	b11 (0.27)
1093.624	1373.82 <sub>3</sub>	17.23	

1101.838	570.32 <sub>3</sub>	7.15	
1106.499	2975.43 <sub>3</sub>	37.32	y10 (-0.00)
1118.381	459.66 <sub>3</sub>	5.76	
1207.759	2384.75 <sub>3</sub>	29.91	y11 (0.21)
1210.018	767.88 <sub>3</sub>	9.63	
1214.088	3042.84 <sub>3</sub>	38.16	
1220.150	669.23 <sub>3</sub>	8.39	
1291.459	1587.59 <sub>3</sub>	19.91	
1293.550	2274.93 <sub>3</sub>	28.53	a13 (-0.17)
1295.335	947.54 <sub>3</sub>	11.88	
1299.937	2051.93 <sub>3</sub>	25.73	
1304.164	2404.02 <sub>3</sub>	30.15	b13o (0.45)
1323.903	1283.12 <sub>3</sub>	16.09	
1374.872	784.24 <sub>3</sub>	9.83	
1392.948	1557.46 <sub>3</sub>	19.53	
1403.594	1000.35 <sub>3</sub>	12.54	y13 (-0.07)
1409.775	133.05 <sub>3</sub>	1.66	
1477.827	156.52 <sub>3</sub>	1.96	
1482.322	166.43 <sub>3</sub>	2.08	
1486.155	554.99 <sub>3</sub>	6.96	
1490.057	546.05 <sub>3</sub>	6.84	
1532.064	334.60 <sub>3</sub>	4.19	
1541.394	362.74 <sub>3</sub>	4.54	y14o (-0.36)
1543.169	943.66 <sub>3</sub>	11.83	y14* (0.42) : z14 (0.42)
1553.810	2038.71 <sub>3</sub>	25.57	
1559.721	629.40 <sub>3</sub>	7.89	y14 (-0.04)
1612.012	301.42 <sub>3</sub>	3.78	
1640.960	1273.47 <sub>3</sub>	15.97	y15o (0.13)
1642.528	846.42 <sub>3</sub>	10.61	
1645.509	572.75 <sub>3</sub>	7.18	
1655.961	116.72 <sub>3</sub>	1.46	
1659.189	3965.60 <sub>3</sub>	49.73	y15 (0.35)
1660.938	1060.34	13.29	

S2123

# ProPhosSI MS/MS report

Mass: 656.293692 Charge: 3+



## Cav3.2 human

(36) 2112 QPTAEPHGPEAsPVAGGER 2130 1965.858 (-0.0006) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
12	(2123)	Phospho (ST)	b11 => b12-98 : y7 => y8-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	9 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b11 to b12-98, transition y7 to y8-98[2+] support unique phosphorylation at position 12  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y14-98 to y17-98.
Five of six sequential ions present	1/1	Five of Six ions found between y3 and y8 Five of Six ions found between y4 and y9 Five of Six ions found between y7 and y12 Five of Six ions found between y11 and y16 Five of Six ions found between y12 and y17
Proline directed fragmentation pattern	4/5	FAIL: y18-98< y17-98 No proline ions at b2  PASS: y14-98> y13-98  No proline ions at b6  NOTE: G-P is a low abundance fragmentation. PASS: y11-98> y10-98  No proline ions at b9  NOTE: S-P is a low abundance fragmentation. PASS: y7> y6  PASS: b13-98< b12-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 1440.790: intensity: 2302.98) assigned 1 times ion 2 (mass: 720.899: intensity: 2302.98) assigned 1 times ion 3 (mass: 1166.849: intensity: 1551.78) assigned 0 times ion 4 (mass: 583.928: intensity: 1551.78) assigned 0 times ion 5 (mass: 671.756: intensity: 1328.05) assigned 1 times ion 6 (mass: 646.847: intensity: 1225.65) assigned 0 times ion 7 (mass: 1292.687: intensity: 1225.65) assigned 0 times ion 8 (mass: 685.335: intensity: 838.84) assigned 1 times ion 9 (mass: 1369.663: intensity: 838.84) assigned 0 times

-	-	ion 10 (mass: 509.142: intensity: 680.32) assigned 2 times
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## Ion Table

54 ions assigned of 80 ions above threshold (67%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
Q	1	129.066	112.039	-	111.055
P	2	226.119	209.092	-	208.108 *208.023 (3)
T	3	327.166	310.140 310.204 (3)	-	309.156
A	4	398.203	381.177 *380.963 (13)	-	380.193
E	5	527.246	510.220 510.043 (18)	-	509.236 *509.142 (29)
P	6	624.299	607.272	-	606.288
H	7	761.358 *380.963 [2+] (13)	744.331	-	743.347 743.276 (12)
G	8	818.379	801.353	-	800.369
P	9	915.432	898.405	-	897.421
E	10	1044.475	1027.448 1027.533 (6) *513.841 [2+] (7)	-	1026.464 *513.841 [2+] (7)
A	11	1115.512 1115.537 (2)	1098.485	-	1097.501 548.950 [2+] (16)
s	12	1282.510 1282.579 (2)	1265.484 1265.319 (2)	1184.524 1184.600 (3)	1264.499
P	13	1379.563	1362.536	1281.577	1361.552
V	14	1478.631	1461.605	1380.645	1460.621
A	15	1549.668	1532.642 *766.675 [2+] (12) 1532.343 (12)	1451.682	1531.658 *766.675 [2+] (12)
G	16	1606.690	1589.663 1589.417 (2)	1508.704	1588.679
G	17	1663.711	1646.685	1565.725	1645.701
E	18	1792.754	1775.727 888.393 [2+] (2)	1694.768	1774.743
R	19	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
Q	19	-	-	-	-
P	18	1838.807	1821.780	1740.821	1820.796
T	17	1741.754 1741.963 (21) 871.485 [2+] (21)	1724.728	1643.768 822.392 [2+] (14)	1723.744
A	16	1640.707 1640.396 (5) 820.701 [2+] (5)	1623.680	1542.721 1542.981 (2)	1622.696
E	15	1569.669 785.356 [2+] (12)	1552.643 *776.457 [2+] (20)	1471.684 1471.921 (17) 736.464 [2+] (17)	1551.659 *776.457 [2+] (20)
P	14	1440.627 1440.790 (100) 720.899 [2+] (100)	1423.600	1342.641 671.756 [2+] (57)	1422.616

H	13	1343.574 1343.781 (12)	1326.548	1245.588	1325.563
G	12	1206.515	1189.489	1108.529 554.903 [2+] (10) 1108.799 (10) 1108.477 (3)	1188.505
P	11	1149.494	1132.467	1051.508 1051.448 (3) 1051.856 (3)	1131.483
E	10	1052.441	1035.414	954.455	1034.430
A	9	923.398 462.214 [2+] (4) 923.559 (6)	906.372	825.412 413.237 [2+] (6) 825.479 (3)	905.388
s	8	852.361 426.658 [2+] (3)	835.335 *418.169 [2+] (17)	754.375 377.681 [2+] (4)	834.351 *418.169 [2+] (17)
P	7	685.363 685.335 (36) *343.264 [2+] (10)	668.336	-	667.352
V	6	588.310	571.284	-	570.300
A	5	489.242 489.183 (17)	472.215	-	471.231
G	4	418.205 *418.169 (17)	401.178	-	400.194
G	3	361.183 361.176 (2)	344.157	-	343.173 *343.264 (10)
E	2	304.162	287.135	-	286.151
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	95	57	60
0.5	93	57	61
1	88	56	63
2	80	54	67
3	62	46	74
4	49	37	75
5	44	35	79
10	36	28	77

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
208.023	81.11 <sub>,</sub>	3.52	b2o (-0.08) : c4[2+] (-0.09)
244.142	52.27 <sub>,</sub>	2.26	
302.273	67.17 <sub>,</sub>	2.91	
310.204	86.45 <sub>,</sub>	3.75	b3* (0.06)
343.264	246.69 <sub>,</sub>	10.71	y3o (0.09) : y7[2+] (0.07)
352.849	45.97 <sub>,</sub>	1.99	a4* (-0.33)
361.176	48.48 <sub>,</sub>	2.10	y3 (-0.00)
362.892	114.33 <sub>,</sub>	4.96	
377.681	102.99 <sub>,</sub>	4.47	y8-98[2+] (-0.01)

380.963	318.20 <sub>3</sub>	13.81	b4* (-0.21) : b7[2+] (-0.22)
413.237	147.60 <sub>3</sub>	6.40	y9-98[2+] (0.02)
418.169	396.72 <sub>3</sub>	17.22	y8o[2+] (0.48) : z8[2+] (-0.00) : y8*[2+] (-0.00) : y4 (-0.03) : c8[2+] (-0.03)
426.658	75.54 <sub>3</sub>	3.28	y8[2+] (-0.02)
462.214	94.54 <sub>3</sub>	4.10	y9[2+] (0.01)
489.183	392.54 <sub>3</sub>	17.04	y5 (-0.05)
509.142	680.32 <sub>3</sub>	29.54	a10[2+] (0.39) : b5o (-0.09)
510.043	419.48 <sub>3</sub>	18.21	b5* (-0.17)
513.841	178.50 <sub>3</sub>	7.75	b10o[2+] (0.10) : b10*[2+] (-0.38)
548.950	380.16 <sub>3</sub>	16.50	b11o[2+] (-0.30)
554.903	241.68 <sub>3</sub>	10.49	y12-98[2+] (0.13)
583.928	1551.78 <sub>3</sub>	67.38	
617.794	305.39 <sub>3</sub>	13.26	x12[2+] (0.03)
644.435	442.40 <sub>3</sub>	19.20	
646.847	1225.65 <sub>3</sub>	53.22	
650.204	325.12 <sub>3</sub>	14.11	c12[2+] (-0.06)
671.756	1328.05 <sub>3</sub>	57.66	y14-98[2+] (-0.06)
685.335	838.84 <sub>3</sub>	36.42	y7 (-0.02)
720.899	2302.98 <sub>3</sub>	100	y14[2+] (0.08)
736.464	398.46 <sub>3</sub>	17.30	y15-98[2+] (0.11)
743.276	287.42 <sub>3</sub>	12.48	b7o (-0.07)
766.675	279.21 <sub>3</sub>	12.12	b15o[2+] (0.34) : b15*[2+] (-0.15)
776.457	463.50 <sub>3</sub>	20.12	y15o[2+] (0.12) : y15*[2+] (-0.36) : z15[2+] (-0.36)
785.356	295.11 <sub>3</sub>	12.81	y15[2+] (0.01)
820.701	128.12 <sub>3</sub>	5.56	y16[2+] (-0.15)
822.392	343.48 <sub>3</sub>	14.91	y17-98[2+] (0.00)
825.479	78.71 <sub>3</sub>	3.41	y9-98 (0.06)
839.348	84.06 <sub>3</sub>	3.65	
871.485	485.56 <sub>3</sub>	21.08	y17[2+] (0.10)
888.393	62.22 <sub>3</sub>	2.70	b18*[2+] (0.02)
892.503	60.50 <sub>3</sub>	2.62	
907.432	44.62 <sub>3</sub>	1.93	
909.707	47.49 <sub>3</sub>	2.06	
917.369	47.52 <sub>3</sub>	2.06	
923.559	148.47 <sub>3</sub>	6.44	y9 (0.16)
1027.533	155.82 <sub>3</sub>	6.76	b10* (0.08)
1037.611	56.22 <sub>3</sub>	2.44	
1051.448	72.60 <sub>3</sub>	3.15	y11-98 (-0.06)
1051.856	91.84 <sub>3</sub>	3.98	y11-98 (0.34)
1069.238	82.96 <sub>3</sub>	3.60	a11o (-0.26)

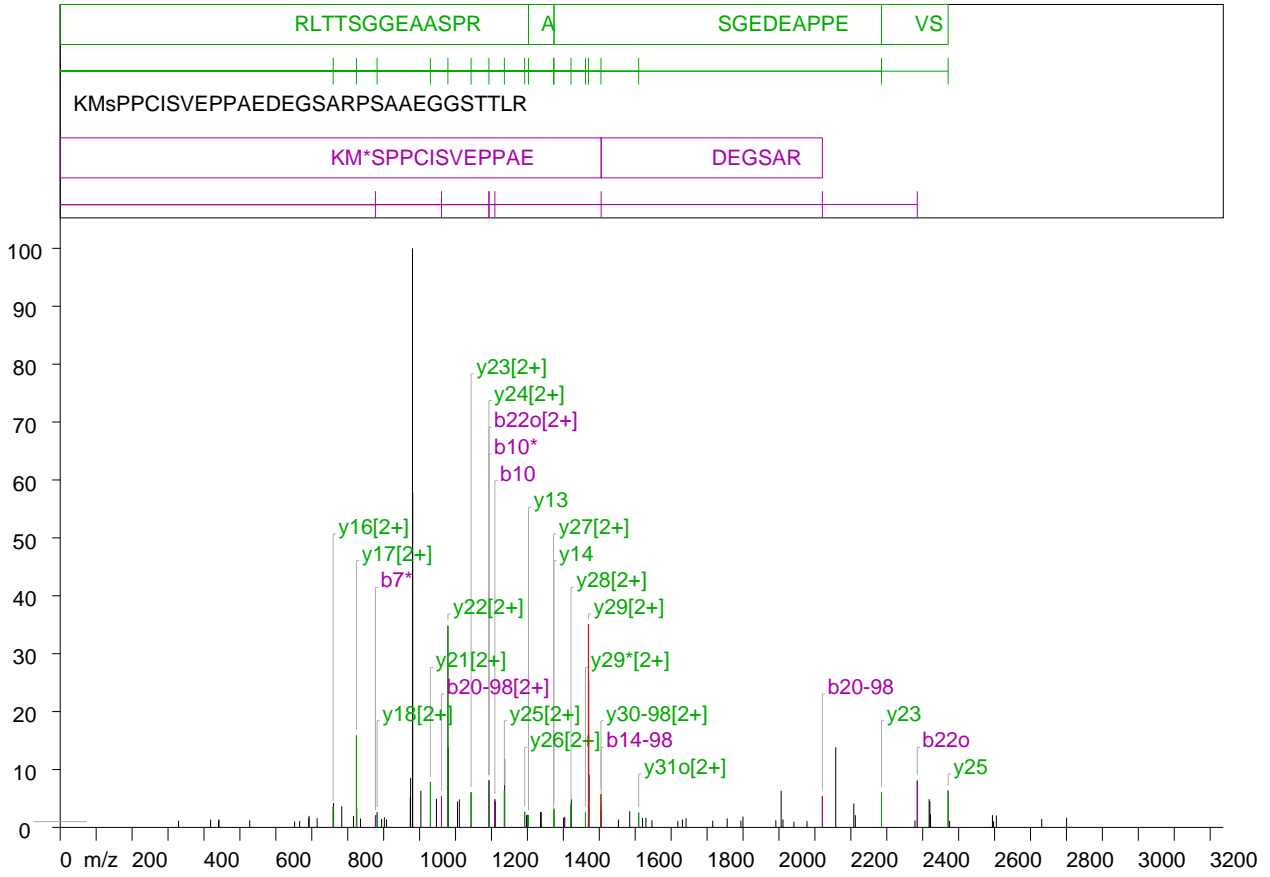


1079.450	111.06 <sub>3</sub>	4.82	
1108.477	79.87 <sub>3</sub>	3.46	y12-98 (-0.05)
1108.799	241.68 <sub>3</sub>	10.49	y12-98 (0.26)
1115.537	57.78 <sub>3</sub>	2.50	b11 (0.02)
1166.849	1551.78 <sub>3</sub>	67.38	
1167.168	112.42 <sub>3</sub>	4.88	
1184.600	72.31 <sub>3</sub>	3.13	b12-98 (0.07)
1195.270	51.30 <sub>3</sub>	2.22	
1198.889	128.94 <sub>3</sub>	5.59	
1234.581	305.39 <sub>3</sub>	13.26	x12 (0.07)
1255.699	70.10 <sub>3</sub>	3.04	
1265.319	65.74 <sub>3</sub>	2.85	b12* (-0.16)
1282.579	55.38 <sub>3</sub>	2.40	b12 (0.06)
1292.687	1225.65 <sub>3</sub>	53.22	
1294.750	299.93 <sub>3</sub>	13.02	
1299.400	325.12 <sub>3</sub>	14.11	c12 (-0.13)
1343.781	297.93 <sub>3</sub>	12.93	y13 (0.20)
1369.663	838.84 <sub>3</sub>	36.42	
1371.801	138.20 <sub>3</sub>	6.00	x13 (0.23)
1417.870	42.34 <sub>3</sub>	1.83	
1432.136	55.85 <sub>3</sub>	2.42	a14o (-0.49)
1436.120	58.95 <sub>3</sub>	2.55	
1440.790	2302.98 <sub>3</sub>	100	y14 (0.16)
1471.921	398.46 <sub>3</sub>	17.30	y15-98 (0.23)
1485.545	287.42 <sub>3</sub>	12.48	
1507.971	27.87 <sub>3</sub>	1.21	
1532.343	279.21 <sub>3</sub>	12.12	b15* (-0.29)
1542.981	55.14 <sub>3</sub>	2.39	y16-98 (0.25)
1566.269	24.12 <sub>3</sub>	1.04	c15 (-0.42)
1570.972	50.64 <sub>3</sub>	2.19	
1589.417	51.99 <sub>3</sub>	2.25	b16* (-0.24)
1601.657	39.27 <sub>3</sub>	1.70	
1625.927	52.40 <sub>3</sub>	2.27	
1640.396	128.12 <sub>3</sub>	5.56	y16 (-0.31)
1649.951	78.71 <sub>3</sub>	3.41	
1653.406	32.33 <sub>3</sub>	1.40	
1677.688	84.06 <sub>3</sub>	3.65	
1738.302	26.49 <sub>3</sub>	1.15	
1741.963	485.56 <sub>3</sub>	21.08	y17 (0.20)

S2188

# ProPhosSI MS/MS report

Mass: 1122.176266 Charge: 3+



<sup>y31o[2+]</sup>  
<sup>y30-9</sup>  
**KMS**

<sup>y[2+]</sup>  
<sup>y\*[2+]</sup>  
<sup>y28[2+]</sup>  
<sup>y27[2+]</sup>  
<sup>y26[2+]</sup>  
<sup>y25[2+]</sup>  
<sup>y25</sup>  
<sup>y24[2+]</sup>  
<sup>y23</sup>  
<sup>y23[2+]</sup>  
<sup>y22[2+]</sup>  
<sup>y21[2+]</sup>  
<sup>y18[2+]</sup>  
<sup>y17[2+]</sup>  
<sup>y16[2+]</sup>  
<sup>y14</sup>  
<sup>y13</sup>  
**P P C I S V E P P A E D E G S A R P S A A E G G S**  
<sub>b7\*</sub>      <sub>b10\*</sub>      <sub>b10</sub>      <sub>b14-98</sub>      <sub>b20-98[2+]</sub>      <sub>b20-98</sub>      <sub>b22o</sub>      <sub>b22o[2+]</sub>

**T T L R**

## Cav3.2 human

(58) 2186<sup>+</sup>KMsPPCISVEPPAEDEGSARPSAAEGGSTTLR 2217 3363.511 (-0.0060) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
3	(2188)	Phospho (ST)	y29[2+] => y30-98[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	3 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y29[2+] to y30-98[2+] support unique phosphorylation at $\beta$ position  
Four Sequential b or y ions	1/1	Sequence of four y ions found from y21 to y24.
Five of six sequential ions present	1/1	Five of Six ions found between y13 and y18 Five of Six ions found between y20 and y25 Five of Six ions found between y21 and y26 Five of Six ions found between y22 and y27 Five of Six ions found between y23 and y28 Five of Six ions found between y24 and y29 Five of Six ions found between y25 and y30 Five of Six ions found between y26 and y31
Proline directed fragmentation pattern	5/5	NOTE: S-P is a low abundance fragmentation. PASS: y29> y28 with ratio 8.89  No proline ions at b4-98  NOTE: P-P is a low abundance fragmentation. PASS: y28> y27 with ratio 1.60  No proline ions at b5-98  PASS: y22> y21 with ratio 4.43  No proline ions at b11-98  NOTE: P-P is a low abundance fragmentation. PASS: y21> y20  No proline ions at b12-98  No proline ions at y12 PASS: b21-98< b20-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	3/6	ion 1 (mass: 980.262: intensity: 3754.14) assigned 0 times ion 2 (mass: 980.865: intensity: 2176.51) assigned 0 times ion 3 (mass: 1469.833: intensity: 1315.82) assigned 1 times

-	-	ion 4 (mass: 1078.767: intensity: 1307.76) assigned 1 times ion 5 (mass: 1470.595: intensity: 951.01) assigned 0 times ion 6 (mass: 824.226: intensity: 595.88) assigned 1 times ion 7 (mass: 1079.480: intensity: 518.78) assigned 0 times ion 8 (mass: 2157.952: intensity: 518.78) assigned 0 times ion 9 (mass: 1236.773: intensity: 444.31) assigned 0 times ion 10 (mass: 1471.344: intensity: 342.03) assigned 0 times
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## Ion Table

28 ions assigned of 57 ions above threshold (49%).

N-terminal ions

AA	N-ion	b	b*	b-98	bo
K	1	129.102	112.076	-	111.092
M	2	260.143	243.116	-	242.132
s	3	427.141	410.115	329.155	409.131
P	4	524.194	507.167	426.208	506.183
P	5	621.247	604.220	523.261	603.236
C	6	781.277	764.251	683.291	763.267
I	7	894.361	877.335 877.142 (2)	796.375	876.351
S	8	981.393	964.367	883.408	963.383
V	9	1080.462	1063.435	982.476	1062.451
E	10	1209.504 1209.420 (4)	1192.478 *1192.918 (8)	1111.519	1191.494
P	11	1306.557	1289.531	1208.571	1288.547
P	12	1403.610	1386.583	1305.624	1385.599
A	13	1474.647	1457.621	1376.661	1456.637
E	14	1603.690	1586.663	1505.704 1505.260 (2)	1585.679
D	15	1718.717	1701.690	1620.731	1700.706
E	16	1847.759	1830.733	1749.773	1829.749
G	17	1904.781	1887.754	1806.795	1886.770
S	18	1991.813	1974.786	1893.827	1973.802
A	19	2062.850	2045.823	1964.864	2044.839
R	20	2218.951	2201.924	2120.965 1060.908 [2+] (5) 2120.809 (5)	2200.940
P	21	2316.004	2298.977	2218.018	2297.993
S	22	2403.036	2386.009	2305.050	2385.025 2384.828 (8) *1192.918 [2+] (8)
A	23	2474.073	2457.046	2376.087	2456.062
A	24	2545.110	2528.083	2447.124	2527.099
E	25	2674.153	2657.126	2576.167	2656.142
G	26	2731.174	2714.148	2633.188	2713.164
G	27	2788.196	2771.169	2690.210	2770.185
S	28	2875.228	2858.201	2777.242	2857.217
T	29	2976.275	2959.249	2878.289	2958.265

T	30	3077.323	3060.296	2979.337	3059.312
L	31	3190.407	3173.380	3092.421	3172.396
R	32	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
K	32	-	-	-	-
M	31	3236.424	3219.397	3138.438	3218.413 1609.631 [2+] (2)
s	30	3105.383	3088.357	3007.397 1504.631 [2+] (5)	3087.373
P	29	2938.385 1469.833 [2+] (35)	2921.358 *1461.624 [2+] (2)	-	2920.374
P	28	2841.332 1421.408 [2+] (3)	2824.306	-	2823.322
C	27	2744.279 1372.779 [2+] (2)	2727.253	-	2726.269
I	26	2584.249 1292.403 [2+] (2)	2567.222	-	2566.238
S	25	2471.165 2470.802 (6) 1235.905 [2+] (6)	2454.138	-	2453.154
V	24	2384.133 *1192.918 [2+] (8)	2367.106	-	2366.122
E	23	2285.064 1143.205 [2+] (6) 2285.403 (6)	2268.038	-	2267.054
P	22	2156.022 1078.767 [2+] (34)	2138.995	-	2138.011
P	21	2058.969 1030.117 [2+] (7)	2041.942	-	2040.958
A	20	1961.916	1944.890	-	1943.905
E	19	1890.879	1873.852	-	1872.868
D	18	1761.836 881.747 [2+] (2)	1744.810	-	1743.826
E	17	1646.809 824.226 [2+] (15)	1629.783	-	1628.799
G	16	1517.767 759.580 [2+] (3)	1500.740	-	1499.756
S	15	1460.745	1443.719	-	1442.735
A	14	1373.713 1373.875 (3)	1356.687	-	1355.703
R	13	1302.676 1302.977 (2)	1285.650	-	1284.666
P	12	1146.575	1129.549	-	1128.564
S	11	1049.522	1032.496	-	1031.512
A	10	962.490	945.464	-	944.480
A	9	891.453	874.427	-	873.443
E	8	820.416	803.389	-	802.405
G	7	691.373	674.347	-	673.363
G	6	634.352	617.325	-	616.341
S	5	577.330	560.304	-	559.320
T	4	490.298	473.272	-	472.288
T	3	389.251	372.224	-	371.240

L	2	288.203	271.177	-	270.193
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	128	53	41
0.5	119	51	42
1	92	44	47
2	56	28	50
3	39	20	51
4	34	17	50
5	24	14	58
10	9	3	33

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
329.224	43.48 <sub>,</sub>	1.15	b3-98 (0.06)
418.422	49.98 <sub>,</sub>	1.33	
440.451	45.18 <sub>,</sub>	1.20	
441.891	51.90 <sub>,</sub>	1.38	b8-98[2+] (-0.31)
527.285	45.80 <sub>,</sub>	1.21	
652.221	39.98 <sub>,</sub>	1.06	y13[2+] (0.37)
666.141	40.63 <sub>,</sub>	1.08	x13[2+] (0.30)
691.431	63.01 <sub>,</sub>	1.67	y7 (0.05)
692.467	75.11 <sub>,</sub>	2.00	
714.961	59.07 <sub>,</sub>	1.57	a13o[2+] (0.13) : a13*[2+] (-0.35)
759.580	135.55 <sub>,</sub>	3.61	y16[2+] (0.19)
760.516	158.54 <sub>,</sub>	4.22	
783.371	137.07 <sub>,</sub>	3.65	
816.009	73.54 <sub>,</sub>	1.95	
824.226	595.88 <sub>,</sub>	15.87	y17[2+] (0.31)
825.118	123.48 <sub>,</sub>	3.28	
835.562	57.02 <sub>,</sub>	1.51	
877.142	78.19 <sub>,</sub>	2.08	b7* (-0.19)
881.747	97.75 <sub>,</sub>	2.60	y18[2+] (0.32)
894.444	54.97 <sub>,</sub>	1.46	b7 (0.08)
901.998	65.67 <sub>,</sub>	1.74	a16*[2+] (0.12)
908.034	51.73 <sub>,</sub>	1.37	
974.121	195.46 <sub>,</sub>	5.20	a18*[2+] (0.22)
974.930	320.45 <sub>,</sub>	8.53	
980.262	3754.14 <sub>,</sub>	100	

980.865	2176.51 <sub>3</sub>	57.97	
1003.539	237.53 <sub>3</sub>	6.32	
1030.117	294.98 <sub>3</sub>	7.85	y21[2+] (0.12)
1046.845	185.41 <sub>3</sub>	4.93	
1060.908	203.83 <sub>3</sub>	5.42	b20-98[2+] (-0.07)
1078.767	1307.76 <sub>3</sub>	34.83	y22[2+] (0.25)
1079.480	518.78 <sub>3</sub>	13.81	
1105.465	166.97 <sub>3</sub>	4.44	
1110.596	181.94 <sub>3</sub>	4.84	
1143.205	227.96 <sub>3</sub>	6.07	y23[2+] (0.16)
1192.918	304.55 <sub>3</sub>	8.11	b10* (0.43) : y24[2+] (0.34) : b22o[2+] (-0.09)
1209.420	183.20 <sub>3</sub>	4.87	b10 (-0.08)
1210.526	169.62 <sub>3</sub>	4.51	c22[2+] (-0.00)
1235.905	239.00 <sub>3</sub>	6.36	y25[2+] (-0.18)
1236.773	444.31 <sub>3</sub>	11.83	
1292.403	101.11 <sub>3</sub>	2.69	y26[2+] (-0.22)
1297.532	79.61 <sub>3</sub>	2.12	
1301.261	82.77 <sub>3</sub>	2.20	
1302.977	76.66 <sub>3</sub>	2.04	y13 (0.30)
1336.657	100.55 <sub>3</sub>	2.67	
1338.454	98.63 <sub>3</sub>	2.62	
1372.779	92.23 <sub>3</sub>	2.45	y27[2+] (0.13)
1373.875	121.55 <sub>3</sub>	3.23	y14 (0.16)
1400.716	62.40 <sub>3</sub>	1.66	
1403.906	68.62 <sub>3</sub>	1.82	b12 (0.29)
1421.408	147.95 <sub>3</sub>	3.94	y28[2+] (0.23)
1422.163	182.13 <sub>3</sub>	4.85	
1461.624	100.32 <sub>3</sub>	2.67	y29*[2+] (0.44) : z29[2+] (0.44)
1469.833	1315.82 <sub>3</sub>	35.04	y29[2+] (0.13)
1470.595	951.01 <sub>3</sub>	25.33	
1471.344	342.03 <sub>3</sub>	9.11	
1504.631	215.47 <sub>3</sub>	5.73	y30-98[2+] (0.42)
1505.260	109.43 <sub>3</sub>	2.91	b14-98 (-0.44)
1553.290	50.82 <sub>3</sub>	1.35	y30[2+] (0.09)
1584.638	104.91 <sub>3</sub>	2.79	
1609.631	95.16 <sub>3</sub>	2.53	y31o[2+] (-0.07)
1620.408	61.37 <sub>3</sub>	1.63	c14 (-0.30) : b15-98 (-0.32)
1629.726	62.82 <sub>3</sub>	1.67	y17* (-0.05) : z17 (-0.05)
1646.482	46.70 <sub>3</sub>	1.24	y17 (-0.32)
1718.572	40.86 <sub>3</sub>	1.08	b15 (-0.14)
1731.424	51.55 <sub>3</sub>	1.37	
1741.538	58.98 <sub>3</sub>	1.57	

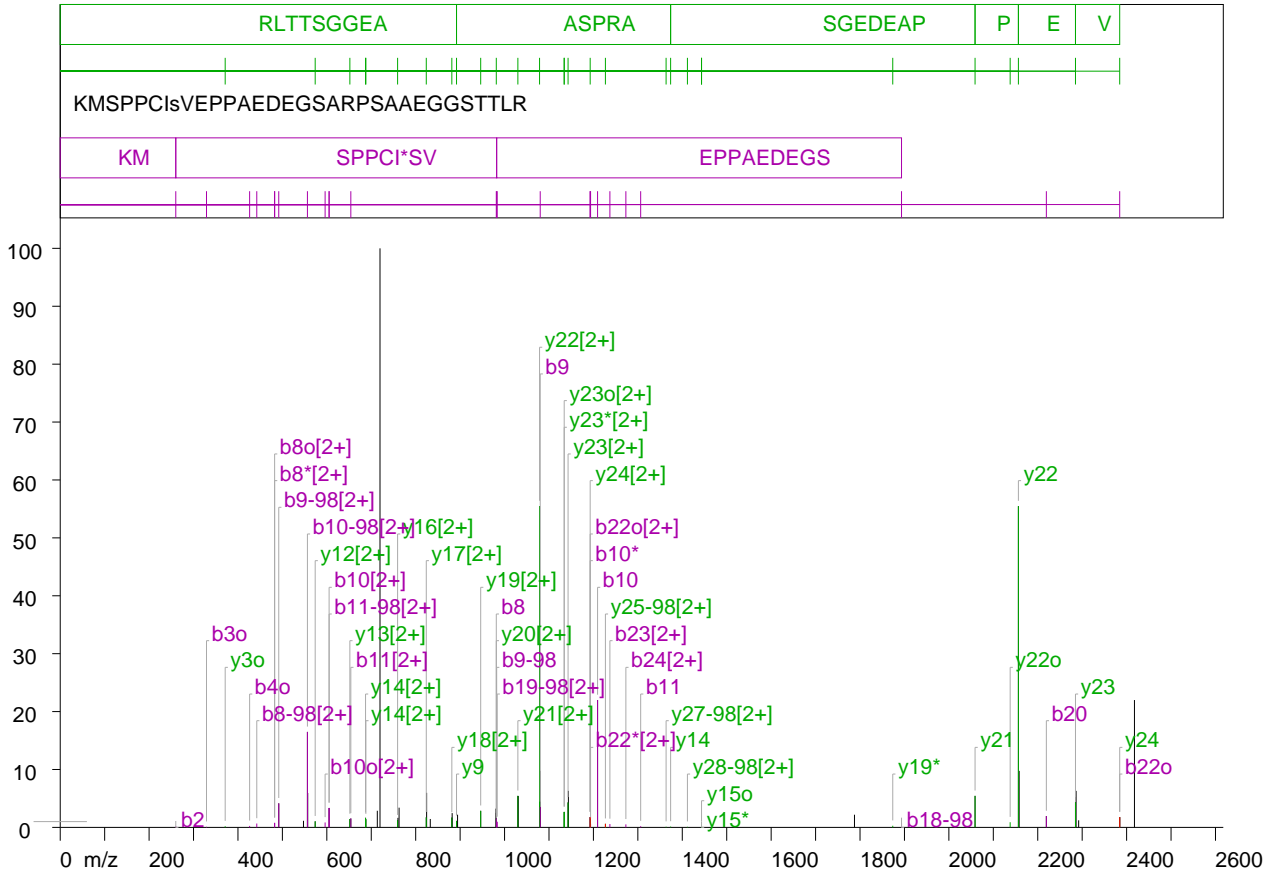


1815.667	43.44,	1.15	
1855.912	58.26,	1.55	
1894.052	43.73,	1.16	b18-98 (0.22)
1899.767	70.65,	1.88	
1991.311	46.71,	1.24	
2006.070	237.53,	6.32	
2011.167	51.76,	1.37	
2078.044	40.32,	1.07	
2120.809	203.83,	5.42	b20-98 (-0.15)
2157.952	518.78,	13.81	
2208.211	154.52,	4.11	
2212.514	78.89,	2.10	
2285.403	227.96,	6.07	y23 (0.33)
2378.439	45.17,	1.20	
2384.828	304.55,	8.11	b22o (-0.19)
2417.833	183.20,	4.87	
2420.044	169.62,	4.51	c22 (-0.01)
2421.734	86.52,	2.30	
2470.802	239.00,	6.36	y25 (-0.36)
2474.905	42.95,	1.14	
2594.056	79.61,	2.12	
2597.076	39.50,	1.05	
2604.947	76.66,	2.04	
2731.133	54.69,	1.45	b26 (-0.04)
2800.424	62.40,	1.66	

S2193

# ProPhosSI MS/MS report

Mass: 841.886448 Charge: 4+



**KMS**  
b2 b30

y28-98[2+] y27-98[2+] y25-98[2+] y24[2+] y23[2+] y23o[2+] y22[2+] y21 y21[2+] y20[2+] y19[2+] y18[2+] y17[2+] y16[2+] y15o y15\* y14[2+] y14 y13[2+] y12[2+] y9  
**P P C I S V E P P A E D E G S A R P S A A E G G S**  
b40 b8\*[2+] b8o[2+] b8-98[2+] b8 b9-98 b10\* b10o[2+] b10-98[2+] b10 b11[2+] b11 b18-98 b19-98[2+] b20 b22\*[2+] b22o[2+] b23[2+] b23o[2+] b24[2+]

y30  
**TTLR**

## Cav3.2 Human

(27) 2186 KMSPPCIsVEPPAEDEGSARPSAAEGGSTTLR 2217 3363.511 (0.0031) Da

Parent Ion	m/z
No parent ions observed	

### Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
8	(2193)	Phospho (ST)	y24 => y25-98[2+]

### Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	9 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition y24 to y25-98[2+] support unique phosphorylation at position 8  
Four Sequential b or y ions	1/1	Sequence of four b ions found from b8-98 to b11-98. Sequence of four y ions found from y16 to y19.
Five of six sequential ions present	1/1	Five of Six ions found between y12 and y17 Five of Six ions found between y13 and y18 Five of Six ions found between y14 and y19 Five of Six ions found between y15 and y20 Five of Six ions found between y16 and y21 Five of Six ions found between y17 and y22 Five of Six ions found between y18 and y23 Five of Six ions found between y19 and y24 Five of Six ions found between y20 and y25 Five of Six ions found between y21 and y26 Five of Six ions found between y22 and y27 Five of Six ions found between y23 and y28
Proline directed fragmentation pattern	5/7	NOTE: S-P is a low abundance fragmentation. FAIL: y29-98< y28-98 No proline ions at b4  NOTE: P-P is a low abundance fragmentation. FAIL: y28-98< y27-98 No proline ions at b5  PASS: y22> y21 with ratio 10.1  PASS: b11-98< b10-98 with ratio 4.91  NOTE: P-P is a low abundance fragmentation. PASS: y21> y20 with ratio 3.42  PASS: b12-98< b11-98  PASS: y12> y11  No proline ions at b21-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 719.667: intensity: 57415.99) assigned 1 times ion 2 (mass: 2156.482: intensity: 31855.42) assigned 1 times ion 3 (mass: 1078.745: intensity: 31855.42) assigned 1 times ion 4 (mass: 2417.624: intensity: 12627.39) assigned 0 times ion 5 (mass: 1209.315: intensity: 12627.39) assigned 1 times ion 6 (mass: 556.318: intensity: 9467.88) assigned 1 times ion 7 (mass: 2158.159: intensity: 5604.41) assigned 0 times ion 8 (mass: 1079.583: intensity: 5604.41) assigned 0 times ion 9 (mass: 2286.326: intensity: 3623.36) assigned 0 times

-	-	ion 10 (mass: 1143.667: intensity: 3623.36) assigned 0 times
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## Ion Table

50 ions assigned of 101 ions above threshold (49%).

N-terminal ions

AA	N-ion	b	b*	b-98	bo
K	1	129.102	112.076	-	111.092
M	2	260.143 *260.069 (0)	243.116	-	242.132
S	3	347.175	330.148	-	329.164 *329.195 (0)
P	4	444.228	427.201	-	426.217 426.290 (0)
P	5	541.280	524.254	-	523.270
C	6	701.311	684.284	-	683.300
I	7	814.395	797.369	-	796.385
s	8	981.393 *981.410 (1)	964.367 *482.537 [2+] (0)	883.408 442.367 [2+] (0)	963.383 *482.537 [2+] (0)
V	9	1080.462 1080.275 (3)	1063.435	982.476 491.841 [2+] (4) *982.246 (1)	1062.451
E	10	1209.504 1209.315 (21) *605.153 [2+] (3)	1192.478 *1192.737 (1)	1111.519 556.318 [2+] (16)	1191.494 596.136 [2+] (0)
P	11	1306.557 654.038 [2+] (1) 1306.361 (0)	1289.531	1208.571 *605.153 [2+] (3)	1288.547
P	12	1403.610	1386.583	1305.624	1385.599
A	13	1474.647	1457.621	1376.661	1456.637
E	14	1603.690	1586.663	1505.704	1585.679
D	15	1718.717	1701.690	1620.731	1700.706
E	16	1847.759	1830.733	1749.773	1829.749
G	17	1904.781	1887.754	1806.795	1886.770
S	18	1991.813	1974.786	1893.827 1893.401 (0)	1973.802
A	19	2062.850	2045.823	1964.864 983.388 [2+] (0)	2044.839
R	20	2218.951 2219.399 (1)	2201.924	2120.965	2200.940
P	21	2316.004	2298.977	2218.018	2297.993
S	22	2403.036	2386.009 1193.626 [2+] (0)	2305.050	2385.025 *2384.467 (1) *1192.737 [2+] (1)
A	23	2474.073 1237.041 [2+] (0)	2457.046	2376.087	2456.062
A	24	2545.110 1273.003 [2+] (0)	2528.083	2447.124	2527.099
E	25	2674.153	2657.126	2576.167	2656.142
G	26	2731.174	2714.148	2633.188	2713.164
G	27	2788.196	2771.169	2690.210	2770.185
S	28	2875.228	2858.201	2777.242	2857.217
T	29	2976.275	2959.249	2878.289	2958.265
T	30	3077.323	3060.296	2979.337	3059.312

L	31	3190.407	3173.380	3092.421	3172.396
R	32	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
K	32	-	-	-	-
M	31	3236.424	3219.397	3138.438	3218.413
S	30	3105.383	3088.357	3007.397	3087.373
P	29	3018.351	3001.325	2920.365	3000.341
P	28	2921.298	2904.272	2823.313 1411.587 [2+] (0)	2903.288
C	27	2824.246	2807.219	2726.260 1363.538 [2+] (0)	2806.235
I	26	2664.215	2647.188	2566.229	2646.204
s	25	2551.131	2534.104	2453.145 *1227.002 [2+] (0)	2533.120
V	24	2384.133 *2384.467 (1) *1192.737 [2+] (1)	2367.106	-	2366.122
E	23	2285.064 2284.937 (4) 1142.972 [2+] (4)	2268.038 *1134.249 [2+] (2)	-	2267.054 *1134.249 [2+] (2)
P	22	2156.022 2156.482 (55) 1078.745 [2+] (55)	2138.995	-	2138.011 2137.909 (0)
P	21	2058.969 1029.969 [2+] (5) 2058.932 (5)	2041.942	-	2040.958
A	20	1961.916 *981.410 [2+] (1)	1944.890	-	1943.905
E	19	1890.879 946.310 [2+] (2)	1873.852 *1873.676 (0)	-	1872.868
D	18	1761.836 881.348 [2+] (1)	1744.810	-	1743.826
E	17	1646.809 823.847 [2+] (1)	1629.783	-	1628.799
G	16	1517.767 759.316 [2+] (1)	1500.740	-	1499.756
S	15	1460.745	1443.719 *1443.314 (0)	-	1442.735 *1443.314 (0)
A	14	1373.713 687.173 [2+] (1) 1373.738 (0) *687.887 [2+] (1)	1356.687	-	1355.703
R	13	1302.676 651.828 [2+] (1)	1285.650	-	1284.666
P	12	1146.575 573.784 [2+] (1)	1129.549	-	1128.564
S	11	1049.522	1032.496	-	1031.512
A	10	962.490	945.464	-	944.480
A	9	891.453 891.895 (1)	874.427	-	873.443
E	8	820.416	803.389	-	802.405
G	7	691.373	674.347	-	673.363
G	6	634.352	617.325	-	616.341
S	5	577.330	560.304	-	559.320
T	4	490.298	473.272	-	472.288

T	3	389.251	372.224	-	371.240 371.251 (0)
L	2	288.203	271.177	-	270.193
R	1	175.119	158.092	-	157.108

### Ion distribution

Threshold	Ion count	Matches	% matched
0	124	53	42
0.5	61	39	63
1	46	28	60
2	28	14	50
3	22	12	54
4	18	10	55
5	15	7	46
10	6	5	83

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
491.841	2386.16 <sub>2</sub>	4.15	b9-98[2+] (0.09)
547.455	652.83 <sub>2</sub>	1.13	
556.318	9467.88 <sub>2</sub>	16.48	b10-98[2+] (0.05)
556.989	3411.34 <sub>2</sub>	5.94	
573.784	603.96 <sub>2</sub>	1.05	y12[2+] (-0.00)
605.153	1926.87 <sub>2</sub>	3.35	b11-98[2+] (0.36) : b10[2+] (-0.10) : x5 (-0.17)
651.828	827.78 <sub>2</sub>	1.44	y13[2+] (-0.01)
654.038	886.29 <sub>2</sub>	1.54	b11[2+] (0.25)
687.173	950.82 <sub>2</sub>	1.65	y14[2+] (-0.18)
687.887	812.25 <sub>2</sub>	1.41	y14[2+] (0.52) : a12[2+] (-0.42)
713.612	1649.89 <sub>2</sub>	2.87	
719.667	57415.99 <sub>2</sub>	100	x7 (0.29)
759.316	704.25 <sub>2</sub>	1.22	y16[2+] (-0.07)
760.007	947.01 <sub>2</sub>	1.64	
762.591	1956.60 <sub>2</sub>	3.40	
823.847	1001.12 <sub>2</sub>	1.74	y17[2+] (-0.06)
824.603	3428.06 <sub>2</sub>	5.97	
832.848	834.41 <sub>2</sub>	1.45	
881.348	970.71 <sub>2</sub>	1.69	y18[2+] (-0.07)
882.071	1417.35 <sub>2</sub>	2.46	
891.895	646.65 <sub>2</sub>	1.12	y9 (0.44)
894.257	1256.56 <sub>2</sub>	2.18	
946.310	1645.11 <sub>2</sub>	2.86	y19[2+] (0.36)
980.479	1861.05 <sub>2</sub>	3.24	
981.410	913.41 <sub>2</sub>	1.59	b8 (0.01) : y20[2+] (-0.05)

982.246	585.36 <sub>,</sub>	1.01	a18[2+] (-0.16) : b9-98 (-0.23)
1029.969	3127.03 <sub>,</sub>	5.44	y21[2+] (-0.01)
1030.710	3112.18 <sub>,</sub>	5.42	
1078.745	31855.42 <sub>,</sub>	55.48	y22[2+] (0.23)
1079.583	5604.41 <sub>,</sub>	9.76	
1080.275	2023.86 <sub>,</sub>	3.52	b9 (-0.18)
1134.249	1534.93 <sub>,</sub>	2.67	y23o[2+] (0.21) : y23*[2+] (-0.27) : z23[2+] (-0.27)
1142.972	2477.61 <sub>,</sub>	4.31	y23[2+] (-0.06)
1143.667	3623.36 <sub>,</sub>	6.31	
1192.737	1017.79 <sub>,</sub>	1.77	b10* (0.25) : y24[2+] (0.16) : b22o[2+] (-0.27)
1209.315	12627.39 <sub>,</sub>	21.99	b10 (-0.18)
1787.506	1256.56 <sub>,</sub>	2.18	
2058.932	3127.03 <sub>,</sub>	5.44	y21 (-0.03)
2156.482	31855.42 <sub>,</sub>	55.48	y22 (0.45)
2158.159	5604.41 <sub>,</sub>	9.76	
2219.399	1125.73 <sub>,</sub>	1.96	b20 (0.44)
2284.937	2477.61 <sub>,</sub>	4.31	y23 (-0.12)
2286.326	3623.36 <sub>,</sub>	6.31	
2292.056	703.14 <sub>,</sub>	1.22	
2384.467	1017.79 <sub>,</sub>	1.77	y24 (0.33) : b22o (-0.55)
2417.624	12627.39 <sub>,</sub>	21.99	

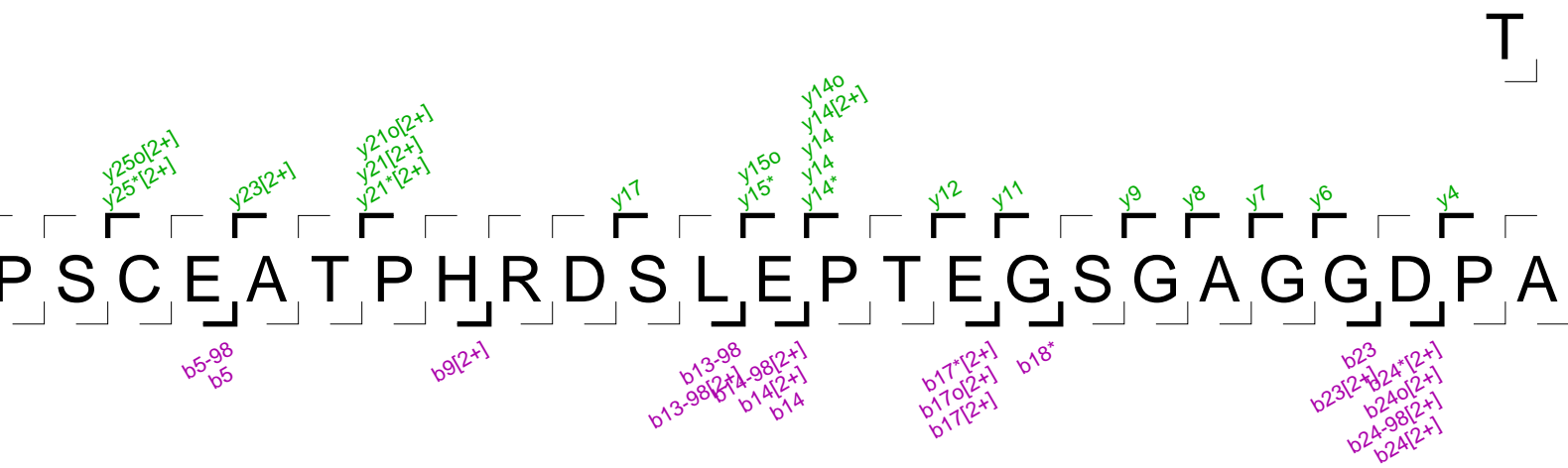
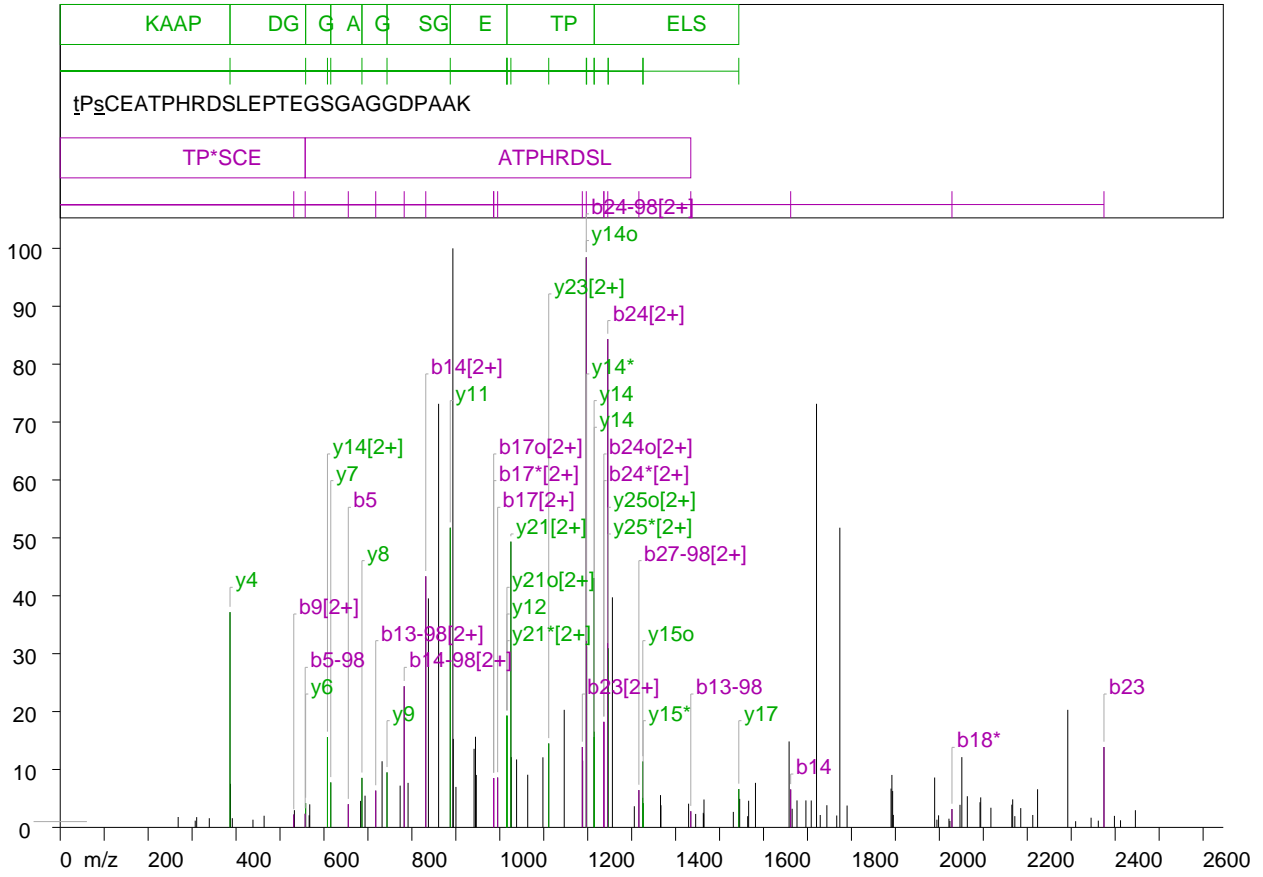


T2220 or

S2222

# ProPhosSI MS/MS report

Mass: 959.077031 Charge: 3+



AK  
b27-98[2+]

## Cav3.2 human

(31) 2220 tP<sub>s</sub>CEATPHRDSLEPTEGSGAGGDPAAK 2247 2874.212 (-0.0052) Da

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
1 or 3	(2220 or 2222)	Phospho (ST)	b5, y23[2+]

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	5 des-phospho fragment ions were found.
Unique -98 transitions present	0/1	
Four Sequential b or y ions	1/1	Sequence of four y ions found from y6 to y9.
Five of six sequential ions present	1/1	Five of Six ions found between y4 and y9 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12
Proline directed fragmentation pattern	5/5	No proline ions at y27-98 No proline ions at b2  PASS: y21> y20  No proline ions at b8-98  PASS: y14> y13  PASS: b15-98< b14-98  PASS: y4> y3  PASS: b25-98< b24-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	6/6	ion 1 (mass: 893.283: intensity: 1155.37) assigned 0 times ion 2 (mass: 1196.767: intensity: 1137.35) assigned 3 times ion 3 (mass: 1245.687: intensity: 974.38) assigned 1 times ion 4 (mass: 1720.571: intensity: 845.20) assigned 0 times ion 5 (mass: 860.789: intensity: 845.20) assigned 0 times ion 6 (mass: 887.305: intensity: 597.95) assigned 1 times ion 7 (mass: 1773.603: intensity: 597.95) assigned 0 times ion 8 (mass: 1025.203: intensity: 570.18) assigned 1 times ion 9 (mass: 831.619: intensity: 501.04) assigned 1 times ion 10 (mass: 1214.532: intensity: 497.64) assigned 1 times

## Ion Table

35 ions assigned of 101 ions above threshold (34%).

### N-terminal ions

AA	N-ion	b	b*	b-98	bo
T	1	102.055	85.028	-	84.044
P	2	199.108	182.081	-	181.097
s	3	366.106	349.080	268.120	348.096
C	4	526.137	509.110	428.151	508.126
E	5	655.179 655.337 (4)	638.153	557.193 557.290 (2)	637.169
A	6	726.216	709.190	628.231	708.206
T	7	827.264	810.238	729.278	809.254
P	8	924.317	907.290	826.331	906.306
H	9	1061.376 531.276 [2+] (2)	1044.349	963.390	1043.365
R	10	1217.477	1200.450	1119.491	1199.466
D	11	1332.504	1315.477	1234.518	1314.493
S	12	1419.536	1402.509	1321.550	1401.525
L	13	1532.620	1515.593	1434.634 1434.538 (2) 717.787 [2+] (6)	1514.609
E	14	1661.663 831.619 [2+] (43) 1661.734 (6)	1644.636	1563.677 *782.544 [2+] (24)	1643.652
P	15	1758.715	1741.689	1660.729	1740.705
T	16	1859.763	1842.737	1761.777	1841.752
E	17	1988.806 995.157 [2+] (8)	1971.779 *986.089 [2+] (8)	1890.820	1970.795 *986.089 [2+] (8)
G	18	2045.827	2028.801 2028.705 (3)	1947.841	2027.817
S	19	2132.859	2115.833	2034.873	2114.849
G	20	2189.881	2172.854	2091.895	2171.870
A	21	2260.918	2243.891	2162.932	2242.907
G	22	2317.939	2300.913	2219.953	2299.929
G	23	2374.961 2374.482 (13) 1187.745 [2+] (13)	2357.934	2276.975	2356.950
D	24	2489.988 1245.687 [2+] (84)	2472.961 *1236.729 [2+] (18)	2392.002 *1196.767 [2+] (98)	2471.977 *1236.729 [2+] (18)
P	25	2587.040	2570.014	2489.055	2569.030
A	26	2658.078	2641.051	2560.092	2640.067
A	27	2729.115	2712.088	2631.129 1316.453 [2+] (6)	2711.104
K	28	-	-	-	-

### C-terminal ions

AA	C-ion	y	y*	y-98	yo
T	28	-	-	-	-
P	27	2774.172	2757.146	2676.187	2756.162
s	26	2677.120	2660.093	2579.134	2659.109
C	25	2510.121	2493.095 *1246.579 [2+] (30)	-	2492.111 *1246.579 [2+] (30)

E	24	2350.091	2333.064	-	2332.080
A	23	2221.048 1111.346 [2+] (14)	2204.022	-	2203.038
T	22	2150.011	2132.984	-	2132.000
P	21	2048.963 1025.203 [2+] (49)	2031.937 *1016.227 [2+] (19)	-	2030.953 *1016.227 [2+] (19)
H	20	1951.911	1934.884	-	1933.900
R	19	1814.852	1797.825	-	1796.841
D	18	1658.751	1641.724	-	1640.740
S	17	1543.724 1543.749 (6)	1526.697	-	1525.713
L	16	1456.692	1439.665	-	1438.681
E	15	1343.607	1326.581 *1326.112 (4)	-	1325.597 1325.327 (11)
P	14	1214.565 1214.847 (15) 1214.532 (43) 607.927 [2+] (15)	1197.538 *1197.578 (31)	-	1196.554 *1196.767 (98)
T	13	1117.512	1100.486	-	1099.502
E	12	1016.464 *1016.227 (19)	999.438	-	998.454
G	11	887.422 887.305 (51)	870.395	-	869.411
S	10	830.400	813.374	-	812.390
G	9	743.368 *743.426 (9)	726.342	-	725.358
A	8	686.347 *686.372 (8)	669.320	-	668.336
G	7	615.310 615.452 (7)	598.283	-	597.299
G	6	558.288 558.331 (4)	541.262	-	540.278
D	5	501.267	484.240	-	483.256
P	4	386.240 *386.268 (37)	369.213	-	368.229
A	3	289.187	272.161	-	271.177
A	2	218.150	201.123	-	200.139
K	1	147.113	130.086	-	129.102

### Ion distribution

Threshold	Ion count	Matches	% matched
0	123	40	32
0.5	122	40	32
1	117	39	33
2	101	35	34
3	85	32	37
4	73	30	41
5	61	28	45
10	36	19	52

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
268.313	20.74 <sub>3</sub>	1.79	b3-98 (0.19)
307.113	13.45 <sub>3</sub>	1.16	
310.417	20.48 <sub>3</sub>	1.77	
339.116	18.33 <sub>3</sub>	1.58	
386.268	429.47 <sub>3</sub>	37.17	x9[2+] (0.08) : y4 (0.02)
387.376	86.91 <sub>3</sub>	7.52	
391.476	18.38 <sub>3</sub>	1.59	a7o[2+] (0.34) : a7*[2+] (-0.14)
438.439	15.37 <sub>3</sub>	1.33	
463.835	23.26 <sub>3</sub>	2.01	
531.276	25.61 <sub>3</sub>	2.21	b9[2+] (0.08)
532.727	34.39 <sub>3</sub>	2.97	
557.290	27.32 <sub>3</sub>	2.36	b5-98 (0.09)
558.331	48.51 <sub>3</sub>	4.19	y6 (0.04)
566.323	24.16 <sub>3</sub>	2.09	
567.653	46.04 <sub>3</sub>	3.98	
607.927	180.37 <sub>3</sub>	15.61	y14[2+] (0.14)
615.452	89.73 <sub>3</sub>	7.76	y7 (0.14)
655.337	46.25 <sub>3</sub>	4.00	b5 (0.15)
683.455	52.88 <sub>3</sub>	4.57	
686.372	98.81 <sub>3</sub>	8.55	x15[2+] (0.06) : y8 (0.02)
693.436	63.28 <sub>3</sub>	5.47	
717.787	73.42 <sub>3</sub>	6.35	b13-98[2+] (-0.03)
732.210	131.97 <sub>3</sub>	11.42	
743.426	109.77 <sub>3</sub>	9.50	c6 (0.18) : y9 (0.05) : a13o[2+] (-0.38)
773.279	83.33 <sub>3</sub>	7.21	
782.544	281.61 <sub>3</sub>	24.37	a7* (0.30) : b14-98[2+] (0.20)
791.332	88.87 <sub>3</sub>	7.69	
831.619	501.04 <sub>3</sub>	43.36	b14[2+] (0.28)
837.636	456.93 <sub>3</sub>	39.54	
860.789	845.20 <sub>3</sub>	73.15	
887.305	597.95 <sub>3</sub>	51.75	y11 (-0.11)
893.283	1155.37 <sub>3</sub>	100	
894.170	176.66 <sub>3</sub>	15.29	
900.230	80.79 <sub>3</sub>	6.99	
941.477	156.79 <sub>3</sub>	13.57	c8 (0.13)
944.690	180.85 <sub>3</sub>	15.65	
946.509	104.66 <sub>3</sub>	9.05	
986.089	98.45 <sub>3</sub>	8.52	b17o[2+] (0.18) : b17*[2+] (-0.30)
995.157	99.50 <sub>3</sub>	8.61	b17[2+] (0.25)
1016.227	222.85 <sub>3</sub>	19.28	y21o[2+] (0.24) : a9* (-0.12) : y12 (-0.23) :

-	-	-	y21*[2+] (-0.24) : z21[2+] (-0.24)
1025.203	570.18,	49.35	y21[2+] (0.21)
1026.053	140.20,	12.13	
1038.196	135.60,	11.73	
1063.514	105.07,	9.09	
1098.084	139.83,	12.10	
1111.346	167.48,	14.49	y23[2+] (0.31)
1146.573	234.59,	20.30	
1187.745	160.34,	13.87	b23[2+] (-0.23)
1188.494	133.12,	11.52	
1196.767	1137.35,	98.44	c23[2+] (0.26) : b24-98[2+] (0.26) : y14o (0.21)
1197.578	361.40,	31.28	y14* (0.03) : z14 (0.03)
1214.532	497.64,	43.07	y14 (-0.03)
1214.847	180.37,	15.61	y14 (0.28)
1236.729	210.59,	18.22	b24o[2+] (0.23) : b24*[2+] (-0.25)
1245.687	974.38,	84.33	b24[2+] (0.18)
1246.579	357.00,	30.89	y25o[2+] (0.01) : y25*[2+] (-0.47) : z25[2+] (-0.47)
1256.193	459.05,	39.73	
1306.033	42.20,	3.65	
1316.453	74.45,	6.44	b27-98[2+] (0.38)
1325.327	131.41,	11.37	y15o (-0.27)
1326.112	48.29,	4.17	y15* (-0.46) : z15 (-0.46)
1365.639	64.42,	5.57	
1366.637	44.24,	3.82	
1429.560	47.30,	4.09	
1434.538	32.24,	2.79	b13-98 (-0.09)
1445.633	26.87,	2.32	
1462.982	29.09,	2.51	
1463.716	26.28,	2.27	
1464.559	55.66,	4.81	
1531.314	30.93,	2.67	
1543.749	76.57,	6.62	y17 (0.02)
1545.757	56.90,	4.92	
1563.923	22.36,	1.93	b14-98 (0.24)
1566.122	53.18,	4.60	
1581.656	88.87,	7.69	
1658.189	171.51,	14.84	
1661.734	75.73,	6.55	b14 (0.07)
1665.078	37.22,	3.22	
1676.146	53.86,	4.66	
1696.378	53.83,	4.65	

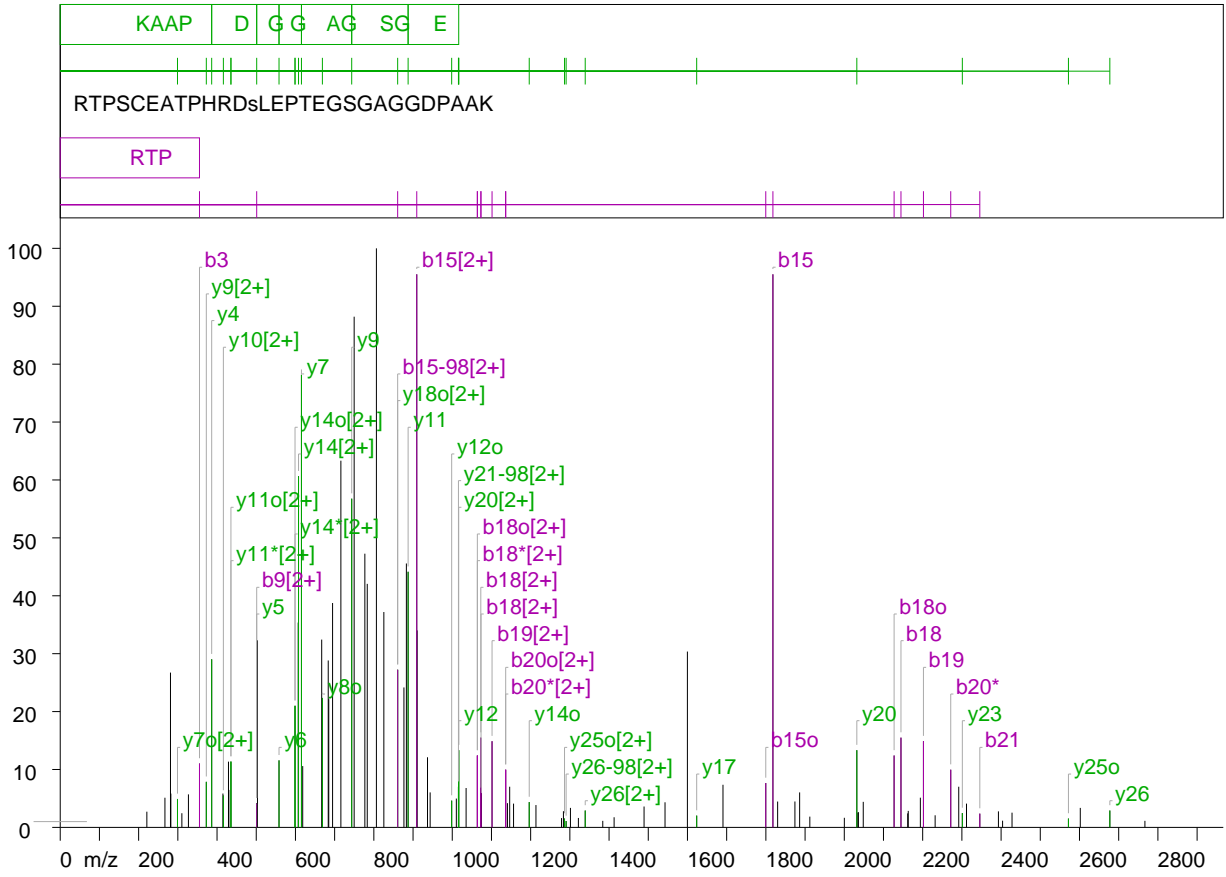
1708.508	53.69,	4.64	
1720.571	845.20,	73.15	
1728.996	24.72,	2.13	
1744.114	44.24,	3.82	
1766.539	23.74,	2.05	
1773.603	597.95,	51.75	
1790.116	43.62,	3.77	
1890.058	77.45,	6.70	
1892.011	104.66,	9.05	
1893.735	72.52,	6.27	
1895.294	24.93,	2.15	
1989.307	99.50,	8.61	
1994.476	15.37,	1.33	
1998.192	24.08,	2.08	
2021.799	17.38,	1.50	
2023.999	12.85,	1.11	
2028.705	36.58,	3.16	b18* (-0.09)
2046.922	45.03,	3.89	
2051.099	140.20,	12.13	
2063.612	62.18,	5.38	
2092.488	50.19,	4.34	
2094.080	59.86,	5.18	
2117.239	39.22,	3.39	
2164.895	45.35,	3.92	
2166.854	55.95,	4.84	
2171.703	22.45,	1.94	b20o (-0.16)
2185.152	38.48,	3.33	
2212.546	24.78,	2.14	
2223.429	76.09,	6.58	
2292.139	234.59,	20.30	
2310.072	12.36,	1.06	
2345.149	19.32,	1.67	
2361.641	13.46,	1.16	
2374.482	160.34,	13.87	b23 (-0.47)
2398.246	22.99,	1.98	
2412.150	14.20,	1.22	
2445.981	34.27	2.96	



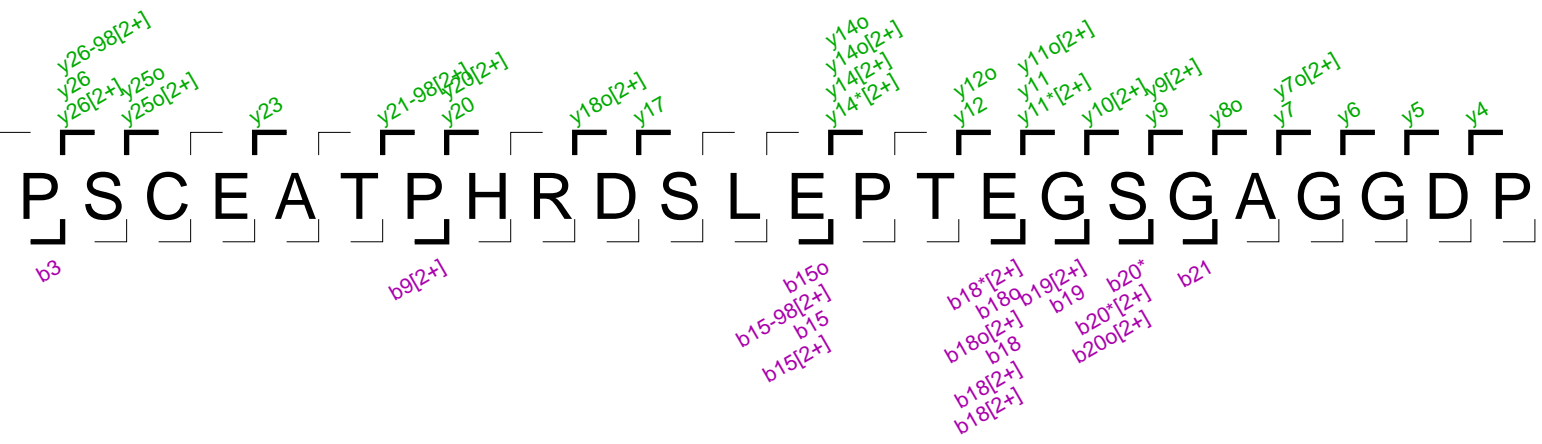
S2231

# ProPhosSI MS/MS report

Mass: 758.584434 Charge: 4+



RT



AAK

## Cav3.2 human

(26) 2219  $\text{RTPSCEATPHRDsLEPTEGSGAGGDPAAK 2247 3030.313 (-0.0075) Da}$

Parent Ion	m/z
No parent ions observed	

## Modifications and supporting evidence

Position	Residue ID	Modification	Evidence
13	(2231)	Phospho (ST)	y14[2+]=>y20

## Spectrum interpretation

Rule	passed/tests	Description
Parent ions present	0/1	Parent ions corresponding to the parent fragment - 1 phosphate ions were not found
Three -98 Ions present	1/1	3 des-phospho fragment ions were found.
Unique -98 transitions present	1/1	transition b9[2+] to b15-98 [2+], transition y14[2+] to y21-98 [2+] support unique phosphorylation at position 13
Four Sequential b or y ions	1/1	Sequence of four y ions found from y4 to y7.
Five of six sequential ions present	1/1	Five of Six ions found between y4 and y9 Five of Six ions found between y5 and y10 Five of Six ions found between y6 and y11 Five of Six ions found between y7 and y12 Five of Six ions found between y9 and y14
Proline directed fragmentation pattern	4/7	FAIL: y27-98< y26-98 FAIL: b3> b2 PASS: y21-98> y20-98  FAIL: b9> b8 PASS: y14> y13  PASS: b16-98< b15-98  PASS: y4> y3  No proline ions at b26-98 
PhosphoTyrosine transition present	0/0	0 of 0 phosphotyrosine transitions were found.
Six of top ten ions identified	5/6	ion 1 (mass: 806.486: intensity: 561.98) assigned 0 times ion 2 (mass: 1817.941: intensity: 536.77) assigned 1 times ion 3 (mass: 909.474: intensity: 536.77) assigned 1 times ion 4 (mass: 749.767: intensity: 495.65) assigned 0 times ion 5 (mass: 615.315: intensity: 439.25) assigned 1 times ion 6 (mass: 715.909: intensity: 355.90) assigned 0 times ion 7 (mass: 607.815: intensity: 340.79) assigned 1 times ion 8 (mass: 743.491: intensity: 319.02) assigned 1 times ion 9 (mass: 777.081: intensity: 265.63) assigned 0 times ion 10 (mass: 883.014: intensity: 256.15) assigned 0 times

## Ion Table

49 ions assigned of 104 ions above threshold (47%).

N-terminal ions

AA	N-ion	b	b*	b-98	bo
R	1	157.108	140.082	-	139.098
T	2	258.156	241.130	-	240.146
P	3	355.209 355.230 (11)	338.182	-	337.198
S	4	442.241	425.214	-	424.230
C	5	602.272	585.245	-	584.261
E	6	731.314	714.288	-	713.304
A	7	802.351	785.325	-	784.341
T	8	903.399	886.372	-	885.388
P	9	1000.452 *501.167 [2+] (4)	983.425	-	982.441
H	10	1137.511	1120.484	-	1119.500
R	11	1293.612	1276.585	-	1275.601
D	12	1408.639	1391.612	-	1390.628
s	13	1575.637	1558.611	1477.651	1557.626
L	14	1688.721	1671.695	1590.735	1670.711
E	15	1817.764 1817.941 (95) 909.474 [2+] (95)	1800.737	1719.778 *860.770 [2+] (27)	1799.753 1799.760 (7)
P	16	1914.816	1897.790	1816.831	1896.806
T	17	2015.864	1998.838	1917.878	1997.854
E	18	2144.907 2144.592 (15) 1072.799 [2+] (15) 1073.415 [2+] (5)	2127.880 *1064.064 [2+] (12)	2046.921	2126.896 2127.120 (12) *1064.064 [2+] (12)
G	19	2201.928 1101.498 [2+] (14) 2201.988 (14)	2184.902	2103.942	2183.918
S	20	2288.960	2271.934 2271.546 (9) *1136.276 [2+] (9)	2190.974	2270.950 *1136.276 [2+] (9)
G	21	2345.982 2345.702 (2)	2328.955	2247.996	2327.971
A	22	2417.019	2399.992	2319.033	2399.008
G	23	2474.040	2457.014	2376.054	2456.030
G	24	2531.062	2514.035	2433.076	2513.051
D	25	2646.089	2629.062	2548.103	2628.078
P	26	2743.142	2726.115	2645.156	2725.131
A	27	2814.179	2797.152	2716.193	2796.168
A	28	2885.216	2868.189	2787.230	2867.205
K	29	-	-	-	-

C-terminal ions

AA	C-ion	y	y*	y-98	yo
R	29	-	-	-	-
T	28	2875.220	2858.194	2777.234	2857.210
P	27	2774.172	2757.146	2676.187	2756.162
S	26	2677.120 1339.202 [2+] (2)	2660.093	2579.134 1290.459 [2+] (1)	2659.109

-	-	2677.396 (2)	-	-	-
C	25	2590.088	2573.061	2492.102	2572.077 1286.413 [2+] (1) 2571.819 (1)
E	24	2430.057	2413.031	2332.071	2412.046
A	23	2301.014 *2301.138 (2)	2283.988	2203.029	2283.004
T	22	2229.977	2212.951	2131.991	2211.967
P	21	2128.930	2111.903	2030.944 1015.792 [2+] (7)	2110.919
H	20	2031.877 2031.998 (13) *1016.503 [2+] (13)	2014.850	1933.891	2013.866
R	19	1894.818	1877.791	1796.832	1876.807
D	18	1738.717	1721.690	1640.731	1720.706 *860.770 [2+] (27)
s	17	1623.690 1623.493 (2)	1606.663	1525.704	1605.679
L	16	1456.692	1439.665	-	1438.681
E	15	1343.607	1326.581	-	1325.597
P	14	1214.565 607.815 [2+] (60)	1197.538 *598.950 [2+] (21)	-	1196.554 *598.950 [2+] (21) 1196.369 (4)
T	13	1117.512	1100.486	-	1099.502
E	12	1016.464 *1016.503 (13)	999.438	-	998.454 998.514 (4)
G	11	887.422 887.426 (44)	870.395 *435.432 [2+] (11)	-	869.411 *435.432 [2+] (11)
S	10	830.400 416.172 [2+] (5)	813.374	-	812.390
G	9	743.368 743.491 (56) *372.647 [2+] (7)	726.342	-	725.358
A	8	686.347	669.320	-	668.336 668.771 (22)
G	7	615.310 615.315 (78)	598.283	-	597.299 299.114 [2+] (4)
G	6	558.288 558.121 (11)	541.262	-	540.278
D	5	501.267 *501.167 (4)	484.240	-	483.256
P	4	386.240 *386.330 (29)	369.213	-	368.229
A	3	289.187	272.161	-	271.177
A	2	218.150	201.123	-	200.139
K	1	147.113	130.086	-	129.102

### Ion distribution

Threshold	Ion count	Matches	% matched
0	110	49	44
0.5	110	49	44
1	104	49	47
2	93	46	49
3	78	38	48

4	74	37	50
5	61	33	54
10	41	23	56

### Observed ions > 1%

m/z	Intensity	% max	Assignment (delta)
220.967	15.25 <sub>,</sub>	2.71	
267.080	28.80 <sub>,</sub>	5.12	
281.227	150.24 <sub>,</sub>	26.73	
282.178	32.84 <sub>,</sub>	5.84	
299.114	27.59 <sub>,</sub>	4.90	y7o[2+] (-0.03)
310.288	13.76 <sub>,</sub>	2.44	c5[2+] (0.13) : a3* (0.10)
327.026	32.05 <sub>,</sub>	5.70	a3 (-0.18)
355.230	61.94 <sub>,</sub>	11.02	b3 (0.02)
372.647	44.23 <sub>,</sub>	7.87	y9[2+] (0.45) : c3 (0.41)
386.330	163.18 <sub>,</sub>	29.03	x9[2+] (0.14) : y4 (0.08)
415.033	32.87 <sub>,</sub>	5.84	
416.172	30.87 <sub>,</sub>	5.49	y10[2+] (0.46)
429.179	63.82 <sub>,</sub>	11.35	a8o[2+] (-0.02)
430.139	36.37 <sub>,</sub>	6.47	a8*[2+] (0.44) : x10[2+] (0.43)
435.432	63.86 <sub>,</sub>	11.36	y11o[2+] (0.22) : z11[2+] (-0.26) : y11*[2+] (-0.26)
501.167	23.35 <sub>,</sub>	4.15	b9[2+] (0.43) : y5 (-0.10)
501.778	23.44 <sub>,</sub>	4.17	
503.129	181.56 <sub>,</sub>	32.30	
558.121	65.06 <sub>,</sub>	11.57	y6 (-0.16)
598.950	118.02 <sub>,</sub>	21.00	y14o[2+] (0.16) : y14*[2+] (-0.32) : z14[2+] (-0.32)
607.041	198.79 <sub>,</sub>	35.37	
607.815	340.79 <sub>,</sub>	60.64	y14[2+] (0.02)
615.315	439.25 <sub>,</sub>	78.16	y7 (0.00)
618.563	59.53 <sub>,</sub>	10.59	
667.004	182.28 <sub>,</sub>	32.43	
668.771	125.63 <sub>,</sub>	22.35	y8o (0.43)
683.637	162.00 <sub>,</sub>	28.82	
685.006	124.45 <sub>,</sub>	22.14	a6o (-0.30)
694.699	217.78 <sub>,</sub>	38.75	
715.909	355.90 <sub>,</sub>	63.32	
743.491	319.02 <sub>,</sub>	56.76	y9 (0.12)
749.767	495.65 <sub>,</sub>	88.19	
777.081	265.63 <sub>,</sub>	47.26	
783.164	236.37 <sub>,</sub>	42.06	
806.486	561.98 <sub>,</sub>	100	

825.532	209.01,	37.19	
860.770	153.01,	27.22	b15-98[2+] (0.37) : y18o[2+] (-0.08)
876.747	135.82,	24.16	
883.014	256.15,	45.57	
887.426	248.09,	44.14	y11 (0.00)
909.474	536.77,	95.51	b15[2+] (0.08)
910.373	191.16,	34.01	
936.852	68.06,	12.11	
943.579	33.96,	6.04	a16[2+] (-0.33)
998.514	25.97,	4.62	y12o (0.05)
1010.454	27.98,	4.97	
1015.792	39.43,	7.01	y21-98[2+] (-0.18)
1016.503	74.94,	13.33	y20[2+] (0.06) : y12 (0.03) : c17[2+] (-0.44)
1035.295	38.23,	6.80	
1064.064	69.77,	12.41	b18o[2+] (0.11) : b18*[2+] (-0.38)
1072.799	87.11,	15.50	b18[2+] (-0.15)
1073.415	33.40,	5.94	b18[2+] (0.45)
1074.450	33.19,	5.90	
1101.498	83.65,	14.88	b19[2+] (0.02)
1136.276	56.00,	9.96	b20o[2+] (0.29) : b20*[2+] (-0.19)
1140.796	23.52,	4.18	
1146.502	39.47,	7.02	
1156.376	23.08,	4.10	
1196.369	24.55,	4.36	y14o (-0.18)
1213.508	21.68,	3.85	
1278.764	9.04,	1.60	
1283.562	15.72,	2.79	
1286.413	8.55,	1.52	y25o[2+] (-0.12)
1290.459	6.17,	1.09	y26-98[2+] (0.38)
1301.507	18.93,	3.36	a25*[2+] (0.46)
1321.745	9.16,	1.62	
1339.202	16.37,	2.91	y26[2+] (0.13)
1383.936	6.36,	1.13	
1412.851	9.84,	1.75	
1489.288	20.27,	3.60	
1542.729	24.37,	4.33	
1599.810	170.66,	30.36	
1623.493	11.43,	2.03	y17 (-0.19)
1690.573	41.38,	7.36	
1799.760	43.06,	7.66	b15o (0.00)
1817.941	536.77,	95.51	b15 (0.17)

1829.981	25.09,	4.46	
1874.112	25.14,	4.47	
1886.150	33.96,	6.04	
1912.101	10.45,	1.85	
2000.175	9.32,	1.65	
2031.998	74.94,	13.33	y20 (0.12)
2034.645	14.37,	2.55	
2036.010	14.78,	2.62	
2048.427	24.80,	4.41	
2127.120	69.77,	12.41	b18o (0.22)
2144.592	87.11,	15.50	b18 (-0.31)
2161.846	13.61,	2.42	c18 (-0.08)
2163.160	16.03,	2.85	
2194.096	28.84,	5.13	
2201.988	83.65,	14.88	b19 (0.05)
2231.747	11.75,	2.09	
2271.546	56.00,	9.96	b20* (-0.38)
2291.997	39.47,	7.02	
2301.138	13.92,	2.47	a21* (0.17) : y23 (0.12)
2311.745	23.08,	4.10	
2345.702	13.36,	2.37	b21 (-0.28)
2393.196	15.56,	2.76	
2403.819	6.51,	1.15	
2427.945	14.30,	2.54	a23o (-0.09)
2571.819	8.55,	1.52	y25o (-0.25)
2602.008	18.93,	3.36	
2677.396	16.37,	2.91	y26 (0.27)
2766.864	6.36	1.13	