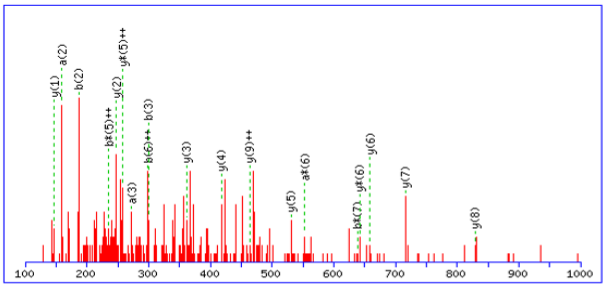
Supplemental Figure S1A

Peak ID: 1740

MS/MS Fragmentation of **SVLGQLGITK**
Found in **gi|24438**, alpha-1-antitrypsin (aa 268-394) [Homo sapiens]
Match to Query 6: 1014.645800 from(508.330176,2+)



Monoisotopic mass of neutral peptide Mr(calc): 1014.6073
Ions Score: 15 Expect: 47
Matches (**Bold**): 19/92 fragment ions using 81 most intense peaks

#	a	a^{++}	a*	a^{*++}	b	b^{++}	b*	b^{*++}	Seq.	y	y^{++}	y*	y^{*++}	#
1	60.0444	30.5258			88.0393	44.5233			S					10
2	**159.1128**	80.0600			**187.1077**	94.0575			V	928.5826	**464.7949**	911.5560	456.2817	9
3	**272.1969**	136.6021			**300.1918**	150.5995			L	**829.5142**	415.2607	812.4876	406.7475	8
4	329.2183	165.1128			357.2132	179.1103			G	**716.4301**	358.7187	699.4036	350.2054	7
5	457.2769	229.1421	440.2504	220.6288	485.2718	243.1395	468.2453	**234.6263**	Q	**659.4087**	330.2080	**642.3821**	321.6947	6
6	570.3610	285.6841	**553.3344**	277.1709	598.3559	**299.6816**	581.3293	291.1683	L	**531.3501**	266.1787	514.3235	**257.6654**	5
7	627.3824	314.1949	610.3559	305.6816	655.3774	328.1923	**638.3508**	319.6790	G	**418.2660**	209.6366	401.2395	201.1234	4
8	740.4665	370.7369	723.4400	362.2236	768.4614	384.7343	751.4349	376.2211	I	**361.2445**	181.1259	344.2180	172.6126	3
9	841.5142	421.2607	824.4876	412.7475	869.5091	435.2582	852.4825	426.7449	T	**248.1605**	124.5839	231.1339	116.0706	2
10									K	**147.1128**	74.0600	130.0863	65.5468	1

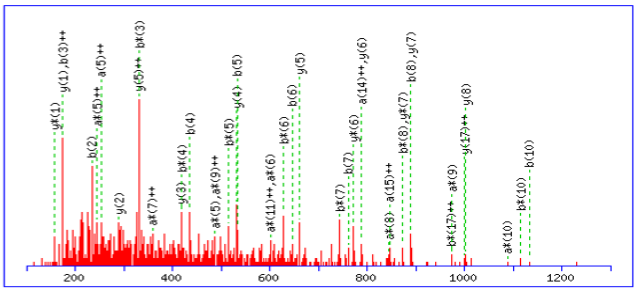
Matched peptides shown in Bold Red

```
   1 THDIITKFLE NEDRRSASLH LPKLSITGTY DLKSVLGQLG ITKVFSNGAD
  51 LSGVTEEAPL KLSKAVHKAV LTIDEKGTEA AGAMFLEAIP MSIPPEVKFN
 101 KPFVFLMIEQ NTKSPLFMGK VVNPTQK
```

Supplemental Figure S1B

Peak ID: 11165

MS/MS Fragmentation of **HPNSPLDEENLTQENQDR**
Found in **gi|443345**, Chain A, Alpha1 Antichymotrypsin
Match to Query 2: 2134.980774 from(712.667534,3+)



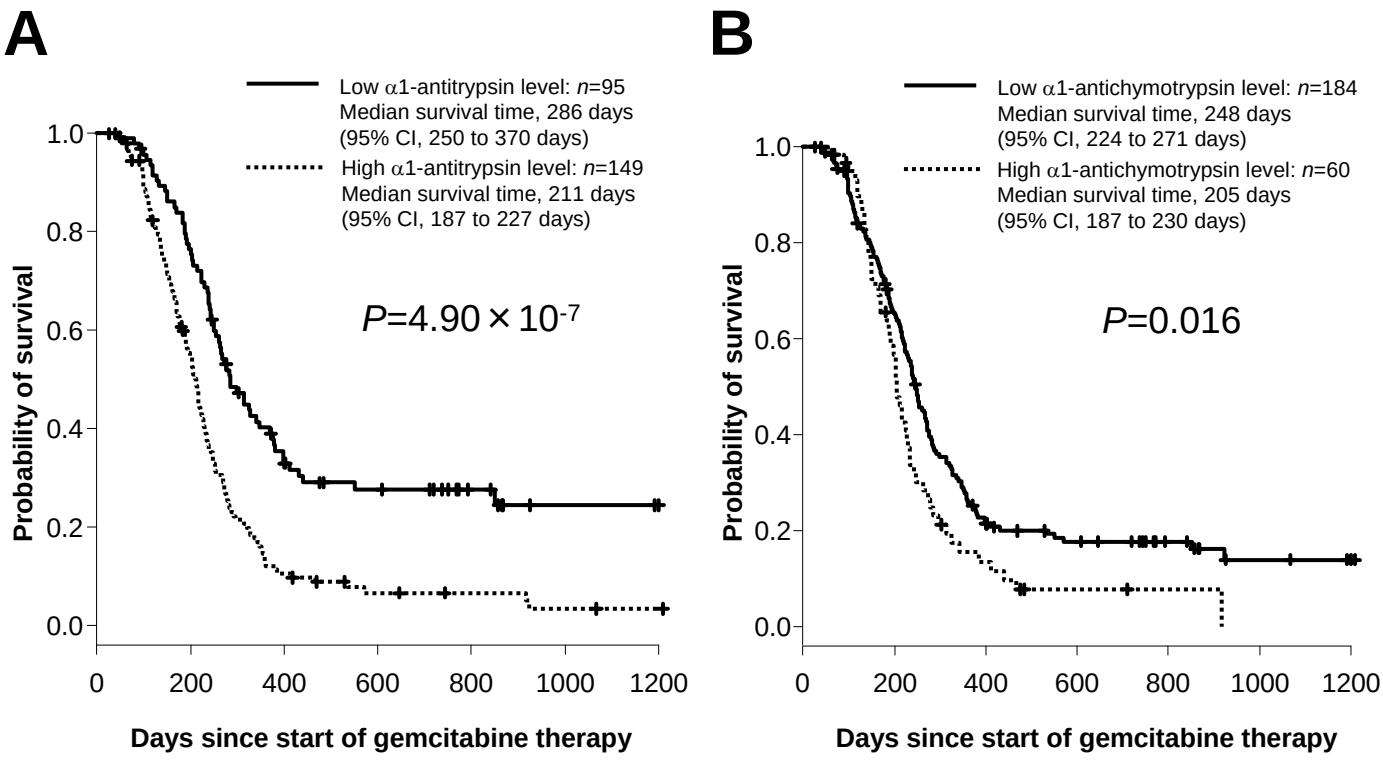
Monoisotopic mass of neutral peptide Mr(calc): 2134.9515
Ions Score: 28 Expect: 0.93
Matches (**Bold**): 41/196 fragment ions using 64 most intense peaks

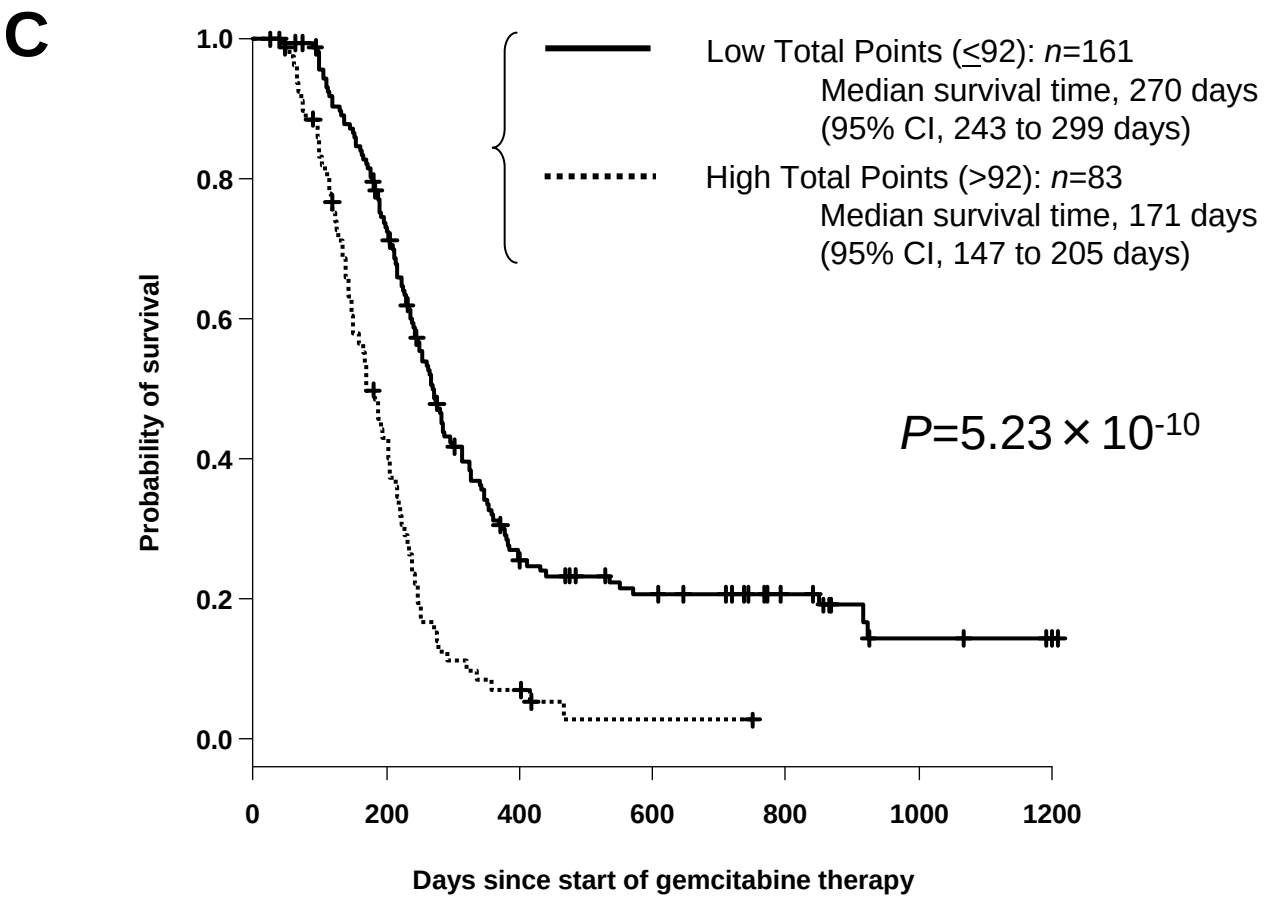
#	a	a^{++}	a*	a*$^{++}$	b	b^{++}	b*	b*$^{++}$	Seq.	y	y^{++}	y*	y*$^{++}$	#
1	110.0713	55.5393			138.0662	69.5367			H					18
2	207.1240	104.0657			**235.1190**	118.0631			P	1998.8999	**999.9536**	1981.8734	991.4403	17
3	321.1670	161.0871	304.1404	152.5738	349.1619	**175.0846**	**332.1353**	166.5713	N	1901.8472	951.4272	1884.8206	942.9139	16
4	408.1990	204.6031	391.1724	196.0899	**436.1939**	218.6006	**419.1674**	210.0873	S	1787.8042	894.4058	1770.7777	885.8925	15
5	505.2518	**253.1295**	**488.2252**	**244.6162**	**533.2467**	267.1270	**516.2201**	258.6137	P	1700.7722	850.8897	1683.7456	842.3765	14
6	618.3358	309.6715	**601.3093**	301.1583	**646.3307**	323.6690	**629.3042**	315.1557	L	1603.7194	802.3634	1586.6929	793.8501	13
7	733.3628	367.1850	716.3362	**358.6717**	**761.3577**	381.1825	**744.3311**	372.6692	D	1490.6354	745.8213	1473.6088	737.3080	12
8	862.4054	431.7063	**845.3788**	423.1930	**890.4003**	445.7038	**873.3737**	437.1905	E	1375.6084	688.3079	1358.5819	679.7946	11
9	991.4479	496.2276	**974.4214**	**487.7143**	1019.4429	510.2251	1002.4163	501.7118	E	1246.5658	623.7866	1229.5393	615.2733	10
10	1105.4909	553.2491	**1088.4643**	544.7358	**1133.4858**	567.2465	**1116.4592**	558.7333	N	1117.5232	559.2653	1100.4967	550.7520	9
11	1218.5749	609.7911	1201.5484	**601.2778**	1246.5699	623.7886	1229.5433	615.2753	L	**1003.4803**	502.2438	986.4538	493.7305	8
12	1319.6226	660.3149	1302.5961	651.8017	1347.6175	674.3124	1330.5910	665.7991	T	**890.3963**	445.7018	**873.3697**	437.1885	7
13	1447.6812	724.3442	1430.6546	715.8310	1475.6761	738.3417	1458.6496	729.8284	Q	**789.3486**	395.1779	**772.3220**	386.6646	6
14	1576.7238	**788.8655**	1559.6972	780.3523	1604.7187	802.8630	1587.6922	794.3497	E	**661.2900**	**331.1486**	644.2634	322.6354	5
15	1690.7667	**845.8870**	1673.7402	837.3737	1718.7616	859.8845	1701.7351	851.3712	N	**532.2474**	266.6273	515.2209	258.1141	4
16	1818.8253	909.9163	1801.7987	901.4030	1846.8202	923.9137	1829.7937	915.4005	Q	**418.2045**	209.6059	401.1779	201.0926	3
17	1933.8522	967.4298	1916.8257	958.9165	1961.8472	981.4272	1944.8206	**972.9139**	D	**290.1459**	145.5766	273.1193	137.0633	2
18									R	**175.1190**	88.0631	**158.0924**	79.5498	1

Matched peptides shown in Bold Red

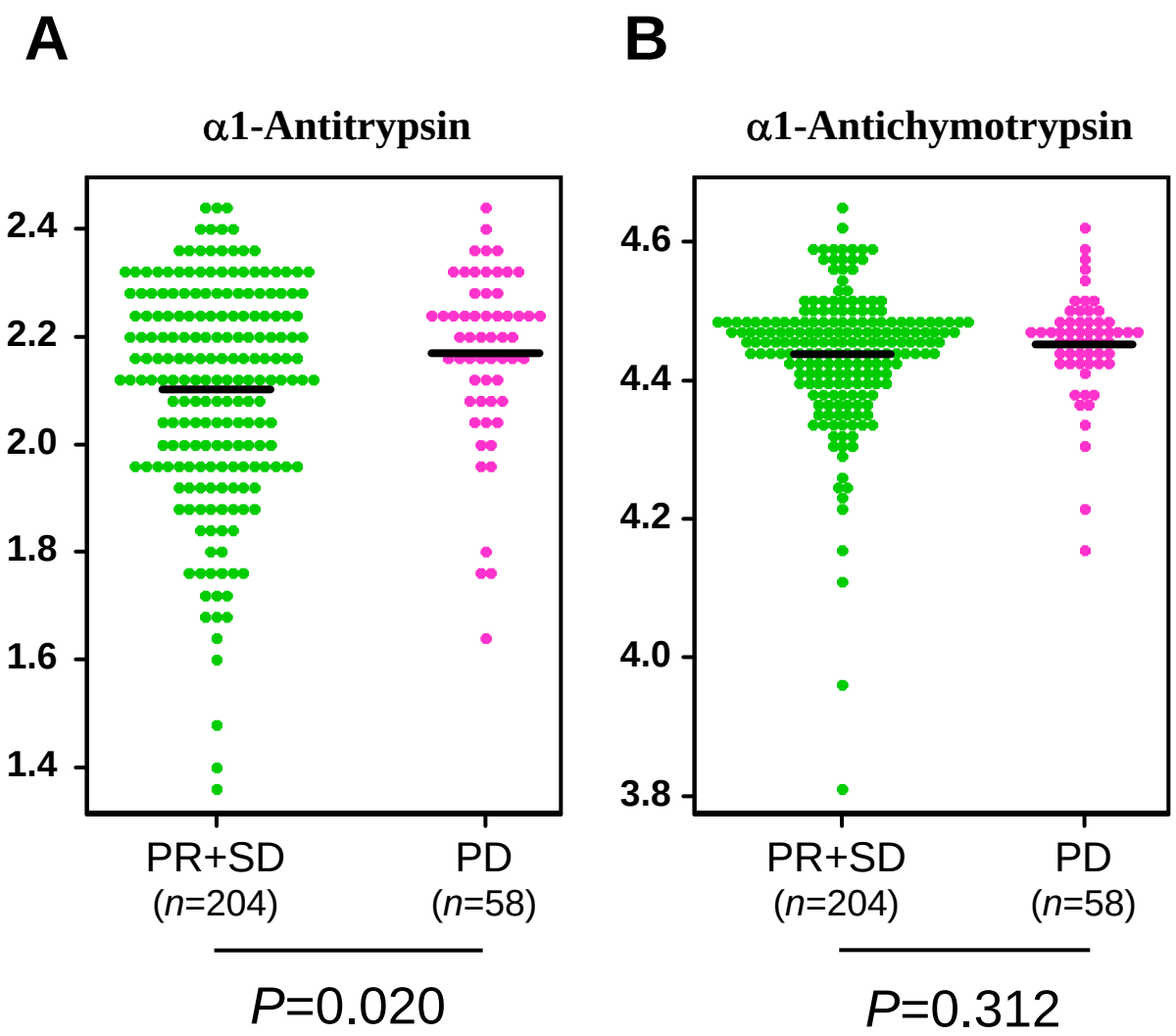
```
   1 HPNSPLDEEN LTQENQDRGT HVDLGLASAN VDFAFSLYKQ LVLKAPDKNV
  51 IFSPLSISTA LAFLSLGAHN TTLTEILKGL KFNLTETSEA EIHQSFQHLL
 101 RTLNQSSDEL QLSMGNAMFV KEQLSLLDRF TEDAKRLYGS EAFATDFQDS
 151 AAAKKLINDY VKNGTRGKIT DLIKDLDSQT MMVLVNYIFF KAKWEMPFDP
 201 QDTHQSRFYL SKKKWVMVPM MSLHHLTIPY FRDEELSCTV VELKYTGNAS
 251 ALFILPDQDK MEEVEAMLLP ETLKRWRDSL EFREIGELYL PKFSISRDYN
 301 LNDILLQLGI EEAFTSKADL SGITGARNLA VSQVVHKAVL DVFEEGTEAS
 351 AATAVKITLL
```

Supplemental Figure S2

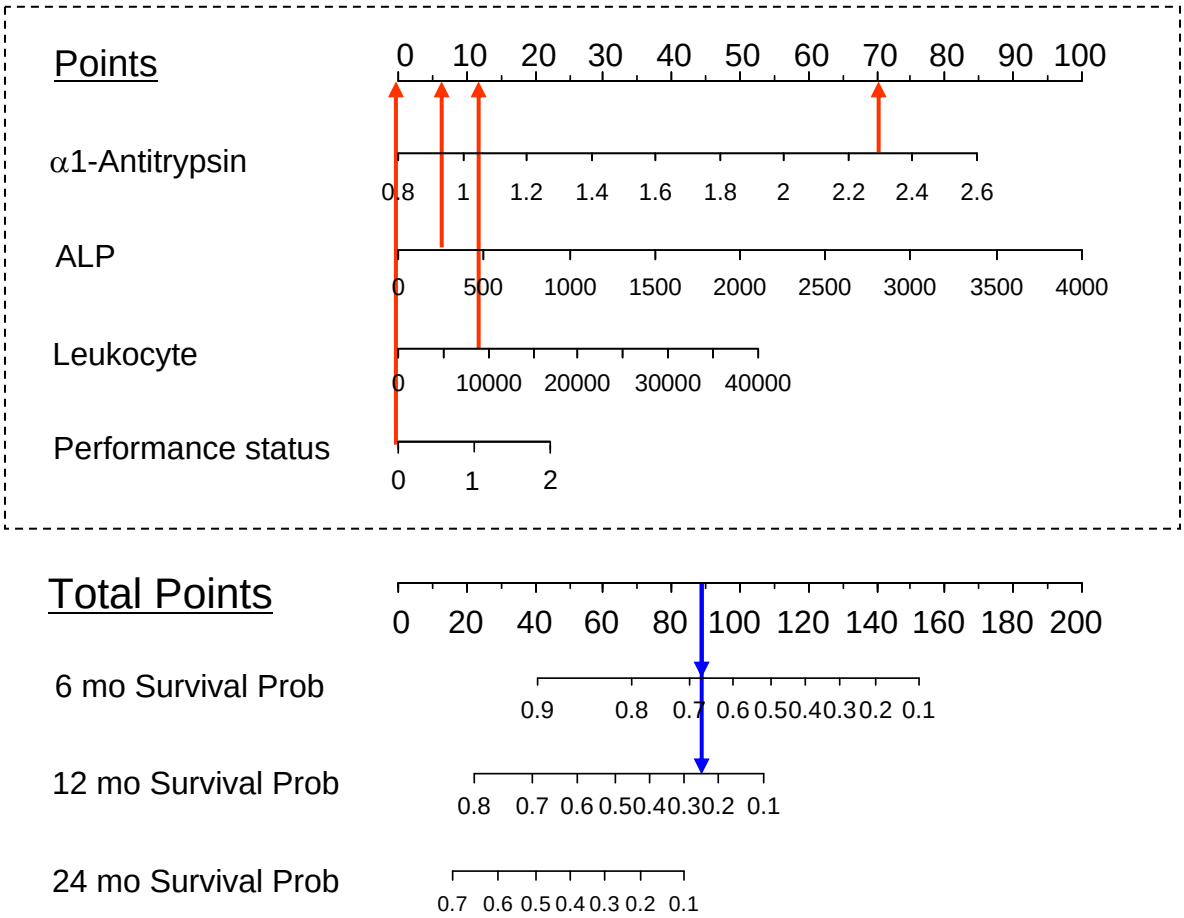




Supplemental Figure S3



Supplemental Figure S4



LEGENDS FOR SUPPLEMENTAL FIGURES ONLINE

Supplemental Figure S1 online

MS/MS spectra and database search results of two representative MS peaks [ID 1740 (*A*) and ID 11165 (*B*)] identified as being derived from α1-antitrypsin and α1-antichymotrypsin, respectively. Peptides that matched the amino acid sequences in the database are highlighted in red.

Supplemental Figure S2 online

Kaplan-Meier plots of overall survival in relation to α1-antitrypsin (*A*), α1-antichymotrypsin (*B*) data, and Total Point score (*C*) in 244 samples that were not used in the 2DICAL analysis.

Supplemental Figure S3 online

Plasma/serum levels of α1-antitrypsin and α1-antichymotrypsin according to tumor response (RECIST guideline). Horizontal lines represent the average levels. Forty-two patients whose tumor response was not evaluable were excluded. PR, partial response; SD, stable disease; PD, progressive disease.

Supplemental Figure S4 online

First, draw a vertical line (*red*) upward to the Points row (*top*) to obtain the number of points for each variable (*top*). Then, total the points and drop a vertical line (*blue*) from the Total Points row to obtain the estimated probability (Prob) of survival 6, 12, and 24 months (mo) after gemcitabine treatment (*bottom*). This particular patient was estimated to have no chance of surviving more than 24 months using the current gemcitabine treatment.