Changes in Metabolic Chemical-Reporter Structure Yield a Selective Probe of O-GlcNAc Modification

Kelly N. Chuh,[1] Balyn W. Zaro,[1] Friedrich Piller,[2] Véronique Piller,[2] and Matthew R. Pratt[1,3,4]

[1]Department of Chemistry and [3]Department of Molecular and Computational Biology
University of Southern California, Los Angeles, CA 90089-0744
[2]Centre de Biophysique Moléculaire, CNRS UPR4301, Université d'Orléans and INSERM, F45071 Orléans Cedex 2, France
[4]Correspondence should be addressed to matthew.pratt@usc.edu

Supporting Information

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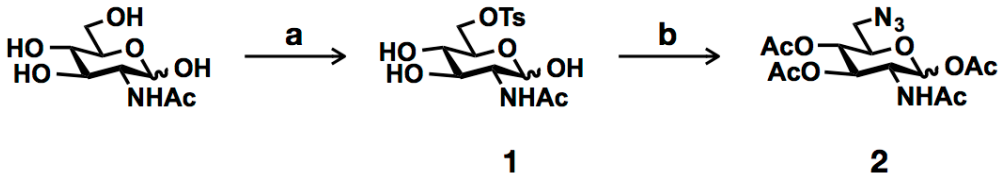
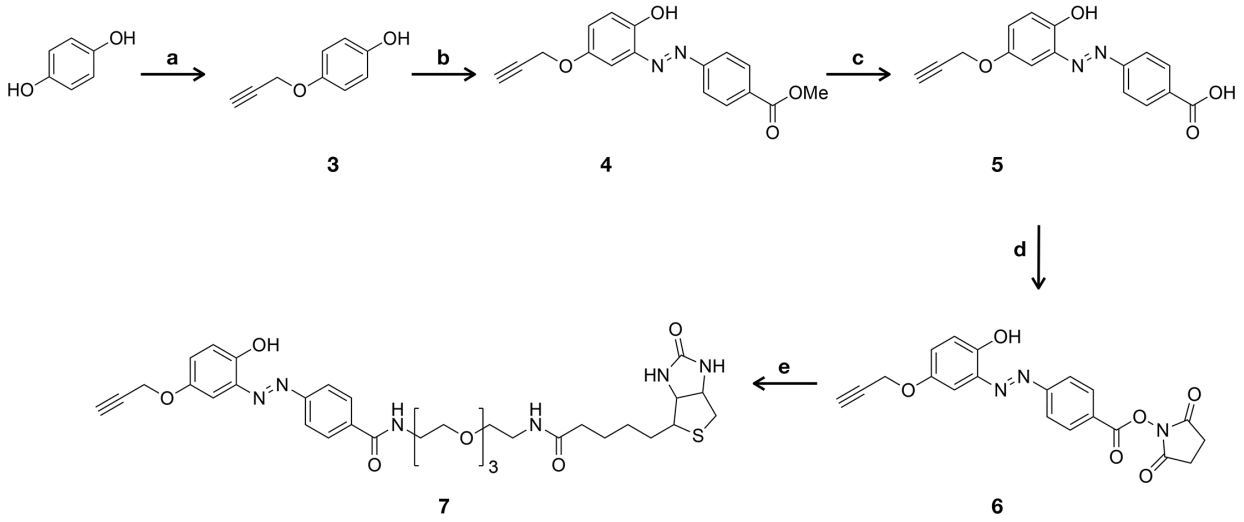
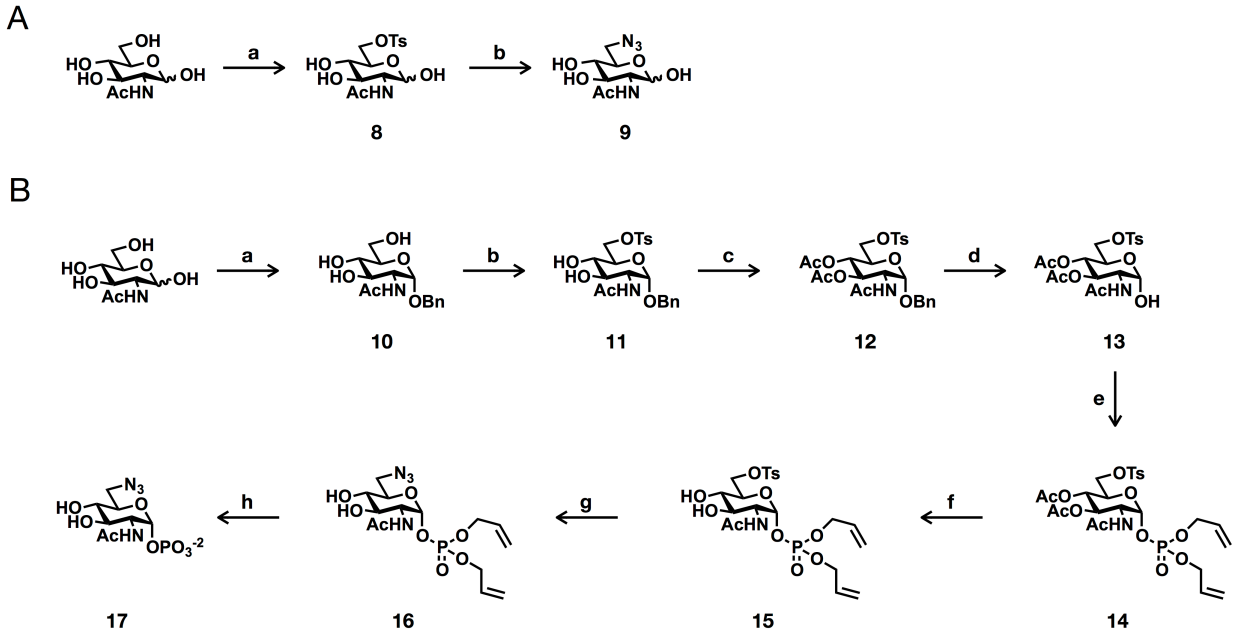


Scheme S1. Synthesis of $Ac_3$6AzGlcNAc. Reagents: (a) 4-toluenesulfonyl chloride, pyridine, -20 °C, 18 h; (b) NaN_3, DMF, 50 °C, 3 d; Ac_2O, pyridine, rt, 16 h, 60% over three steps.



Scheme S2. Synthesis of alkyne-azo-biotin. Reagents: (a) propargyl chloride, 0.1 M KOH, EtOH, reflux, 20 h, 28%; (b) i.) $NaNO_2$, methyl-4-amino-benzoate, 6 M HCl, K_2CO_3, H_2O:THF (2:1), 0 °C, 30 min; ii.) rt, 18 h, 90%; (c) NaOH, rt, 24 h, 70%; (d) *N*-hydroxysuccinimide, *N,N'*-dicyclohexylcarbodiimide, THF, rt, 18 h, 56%; (e) EZ-link Amine PEG_3-biotin, DMF, rt, 18 h, 31%.



Scheme S3. Synthesis of 6AzGlcNAc-1-phosphate. (A) Reagents: (a) *p*-Toluenesulfonyl chloride, pyridine, -20 °C, 16 h; (b) NaN_3, DMF, 50 °C, 3 d, 14% over two steps. (B) Reagents: (a) benzyl alcohol, concentrated HCl, 75 °C, 4 h, 35%; (b) p-toluenesulfonyl chloride, pyridine, -20 °C, 1 h, 52%; (c) acetic anhydride, pyridine, 3 h, quantitative yield; (d) $Pd(OH)_2/C$ (10% Pd), H_2, MeOH, 48 h; (e) i) 5-(ethylthio)-1H-tetrazole, diallyl-*N,N'*-diisopropylphosphoramidite, CH_2Cl_2, 2 h; ii) *m*-chloroperoxybenzoic acid, CH_2Cl_2; -78 °C, 10 min, 74% over 2 steps; (f) sodium methoxide, MeOH, 1.5 h, 57%; (g) sodium azide, DMF, 48 h, 71%; (h) *p*-toluenesulfinic acid sodium salt, tetrakis(triphenylphosphine)-Palladium(0), 4 d, 99%.

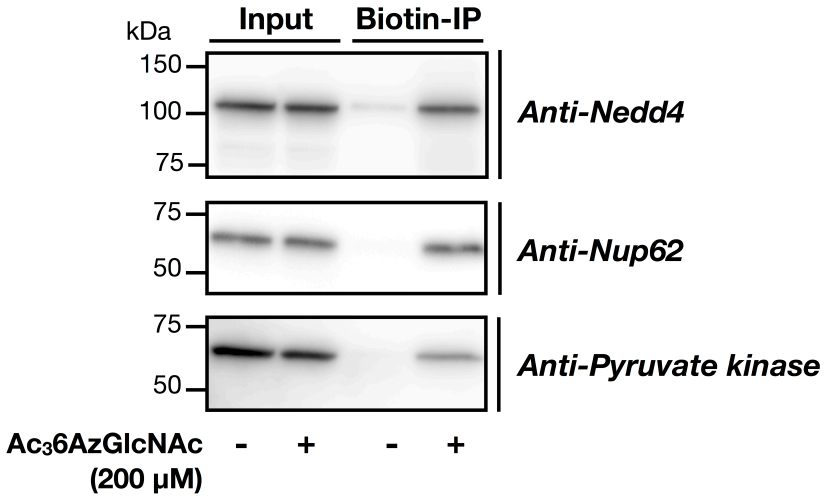


Figure S1. NIH3T3 cells were treated with $Ac_3$6AzGlcNAc (200 μM) or DMSO vehicle for 16 hours. Following lysis and CuAAC with alkyne-azo-biotin samples were analyzed by Western blotting with the indicated antibodies.

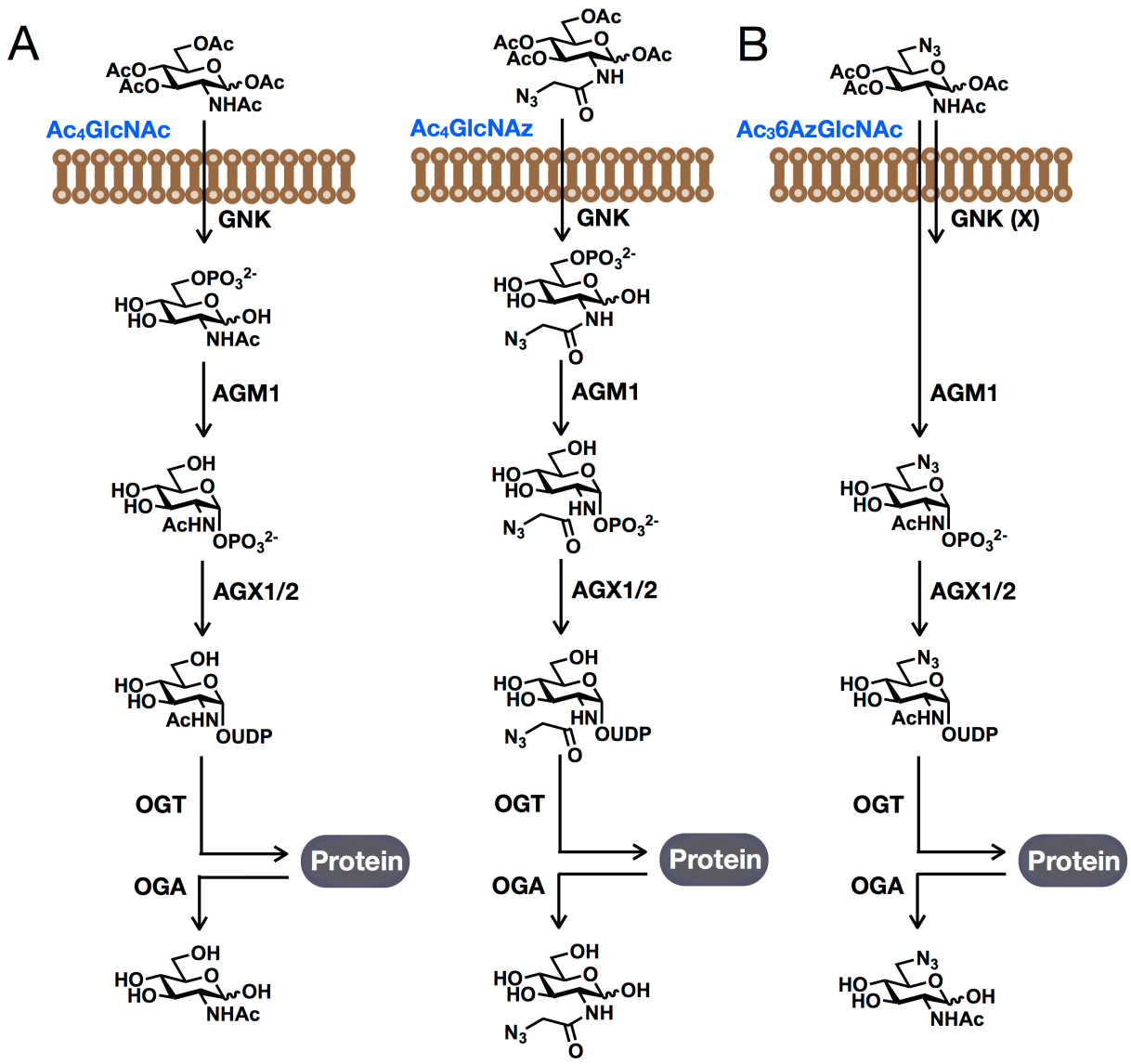


Figure S2. The GlcNAc salvage pathway. (A) Peracetylated GlcNAc accesses the HBP through the GlcNAc salvage pathway. Ac_4GlcNAz is accepted by these enzymes and is ultimately transformed into the UDP donor sugar the which is utilized by OGT to modify protein substrates. (B) 6AzGlcNAc cannot be phosphorylated at the 6-position by GNK. We demonstrate that 6AzGlcNAc can be directly transformed to 6AzGlcNAc-1-phosphate by AGM1 and subsequently transformed to UDP-6AzGlcNAc by AGX1.

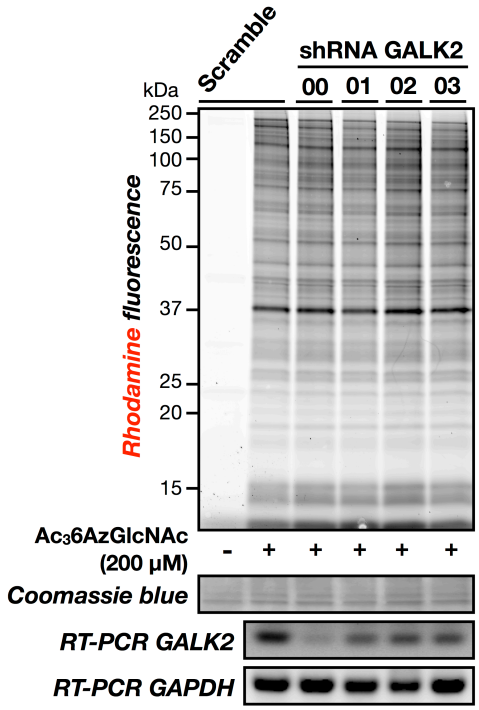


Figure S3. Galactosamine kinase (GalK2) knockdown. Cell-lines with stable knockdown (shRNA) of GalK2 were treated with 6AzGlcNAc (200 µM) for 16 hours before visualization by in-gel fluorescence.

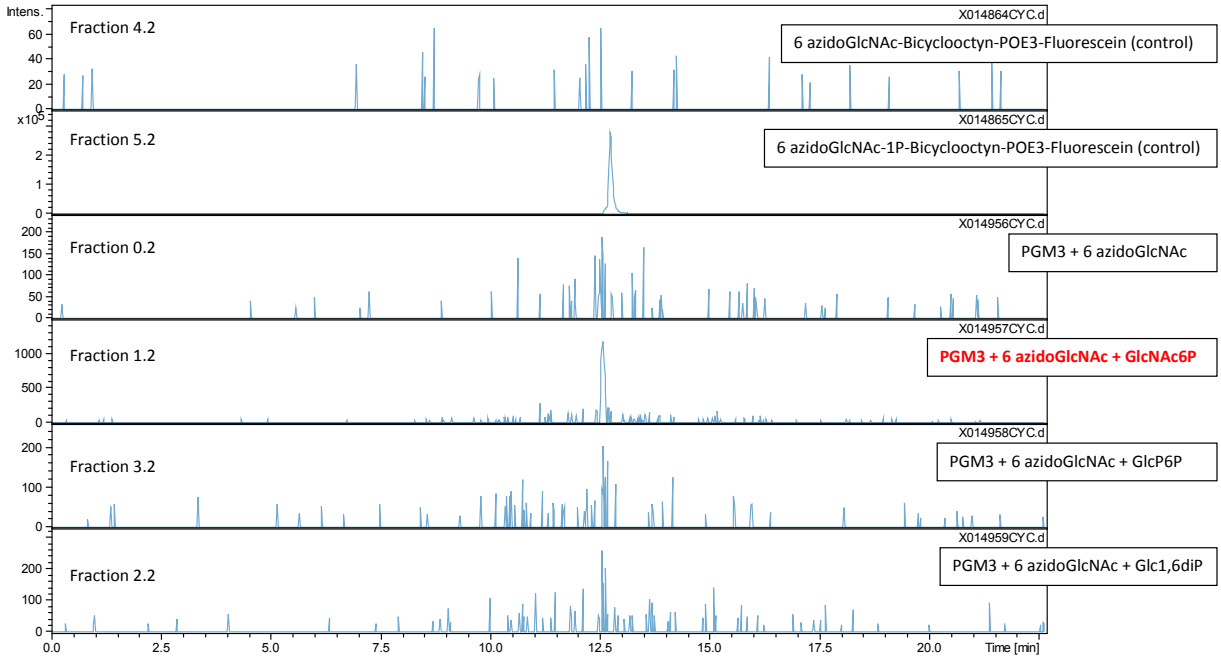


Figure S4. LC-MS analysis of 6AzGlcNAc-1-phosphate production by AGM1. AGM1 enzymatic reactions were subjected to copper-free click chemistry with bicyclooctyn-POE3-fluorescein and subjected to separation by paper chromatography. Fluorescent spots were eluted and analyzed using LC-ESI-MS. Ions corresponding to the fluorescein-conjugated 6AzGlcNAc-1-phosphate (most intense isotope of the double-charged ion) were extracted (blue trace). Only in the presence of AGM1 (PGM3) and GlcNAc-6-phosphate is the formation of 6AzGlcNAc-1-phosphate observed. Units on the y-axis are not uniform.

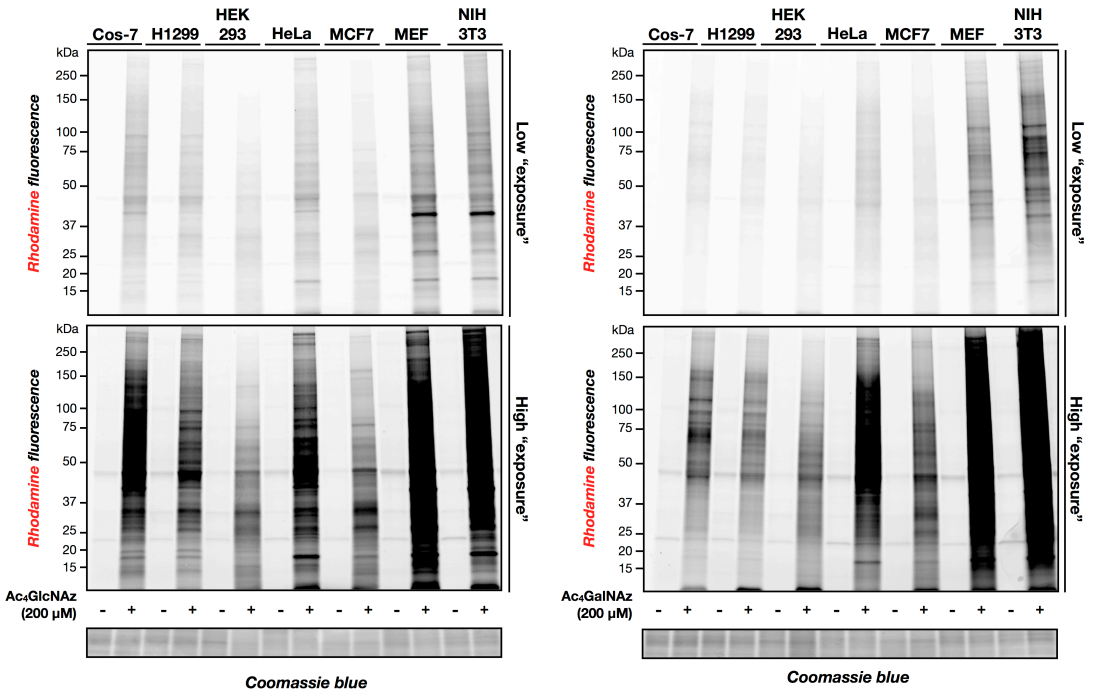


Figure S5. Labeling of cell-lines by GlcNAz and GalNAz. The indicated cel-lines were treated with 200 μM Ac_4GlcNAz or Ac_4GalNAz for 16 hours before modified proteins were subjected to CuAAC with alk-rho and analysis by in-gel fluorescence scanning.

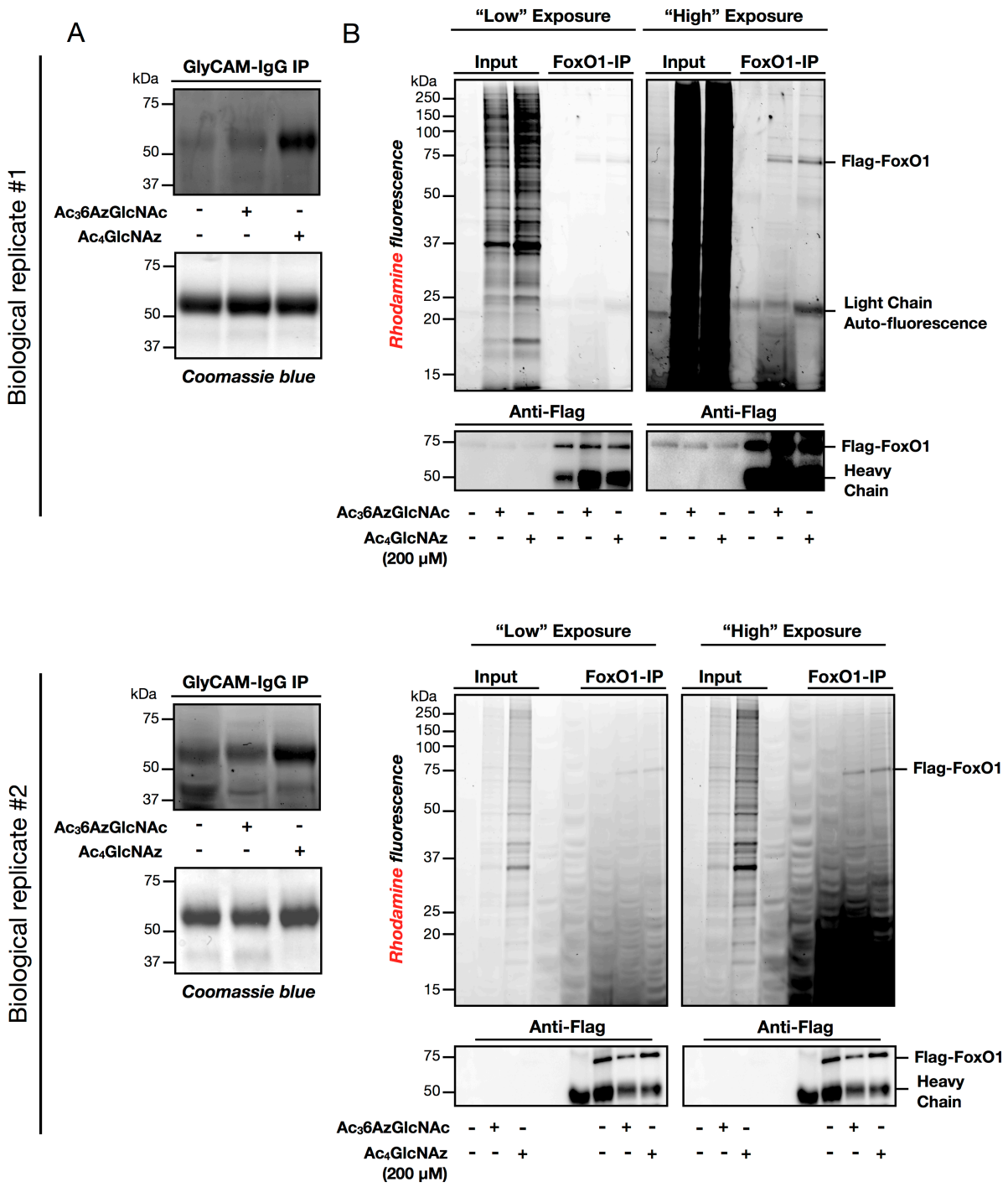


Figure S6. Characterization of the specificity of 6AzGlcNAc. (A) NIH3T3 cells stably expressing GlyCAM-IgG were treated with $Ac_3$6AzGlcNAc (200 μM), Ac_4GlcNAz (200 μM) or Ac_4GlcNAc (200 μM) for 24 h. Cells were then lysed and immunoprecipitated using recombinant protein G sepharose beads. Resulting samples were subjected to CuAAC with alkyne-rhodamine and analyzed by in-gel fluorescence scanning. (B) NIH3T3 cells stably expressing Flag-tagged FoxO1 were treated with $Ac_3$6AzGlcNAc (200 μM), Ac_4GlcNAz (200 μM) or Ac_4GlcNAc (200 μM) for 16 h. Cells were lysed and immunoprecipitated. Flag-tagged Foxo1 was eluted from the beads and subjected to CuAAC with alkyne-rhodamine followed by analysis by in-gel fluorescence scanning and Western blotting.

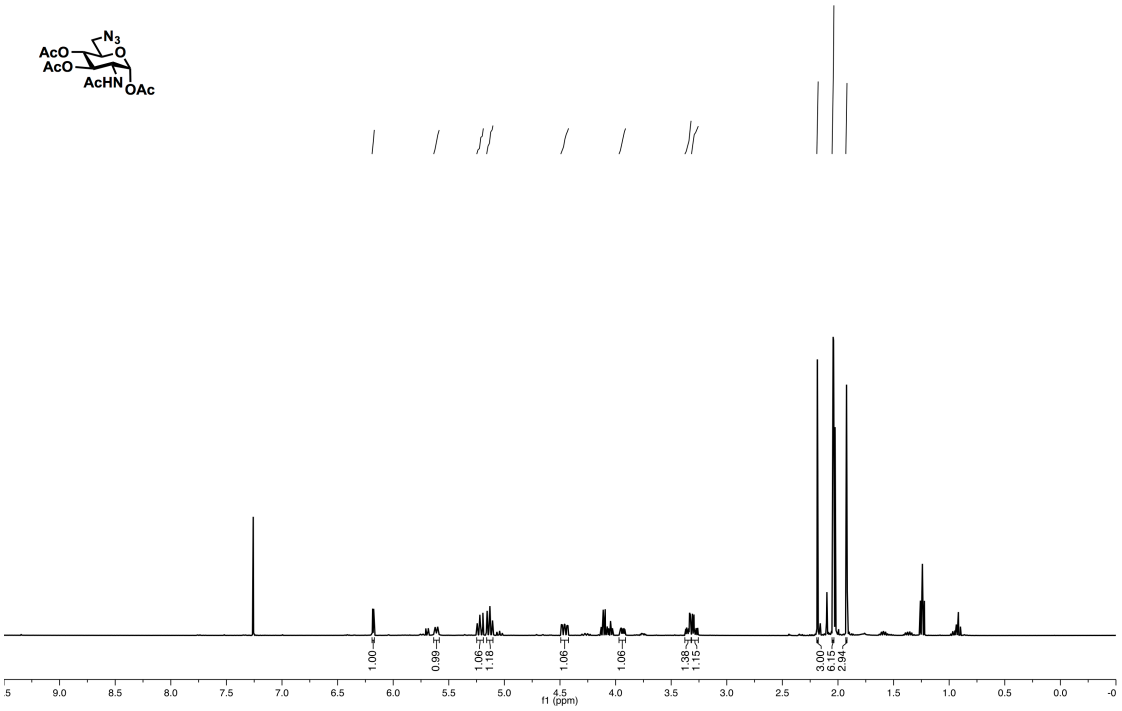


Figure S7. 1,3,4-Tri-O-acetyl-6-azido-6-deoxy-N-acetyl-glucosamine ($Ac_3$6AzGlcNAc, **2**)

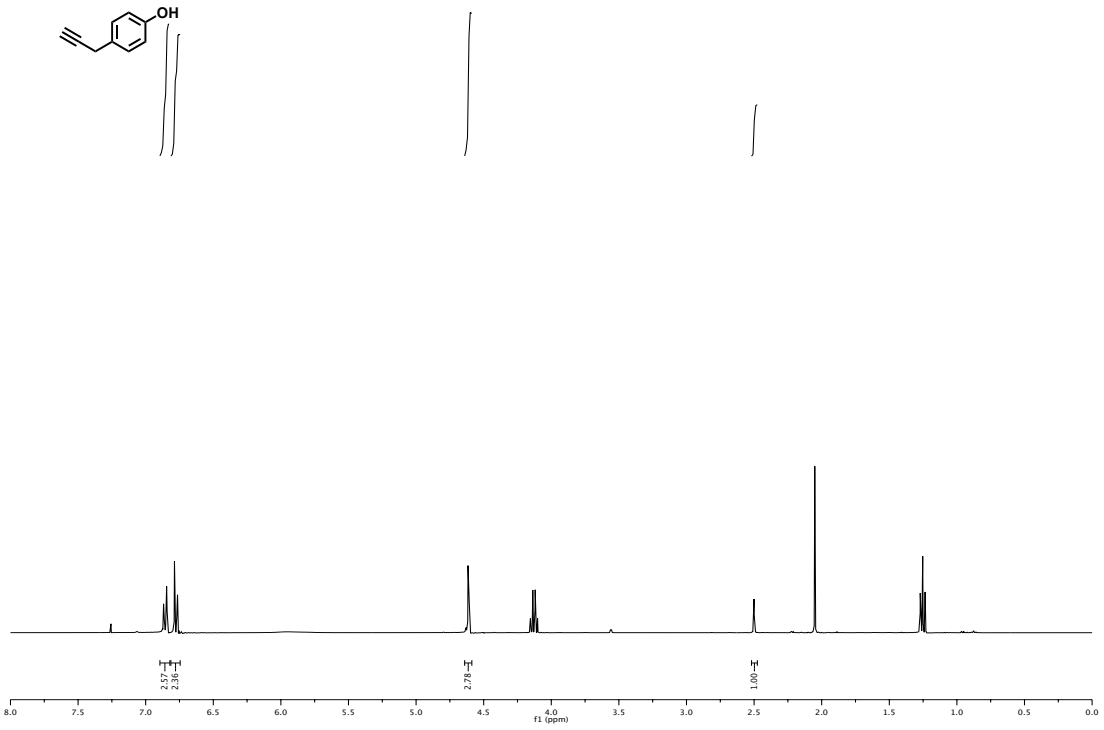


Figure S8. 4-(prop-2-yn-1-yl)phenol **(3)**

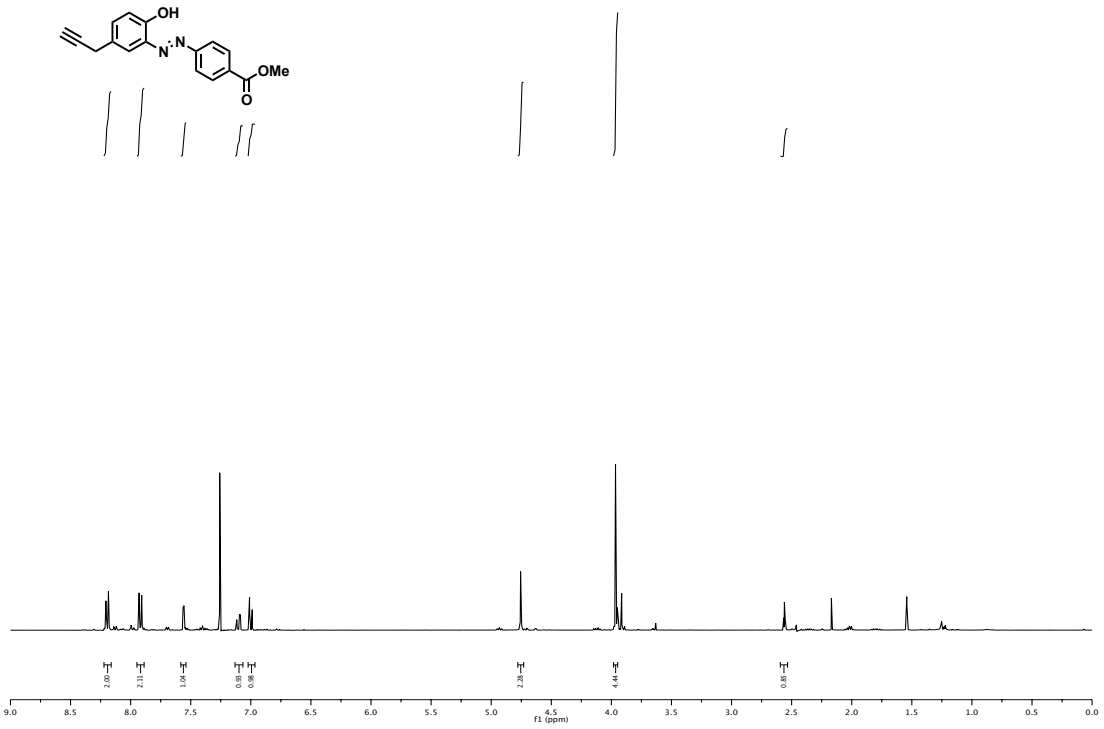


Figure S9. (E)-methyl 4-((2-hydroxy-5-(prop-2-yn-1-yl)phenyl)diazenyl)benzoate (**4**)

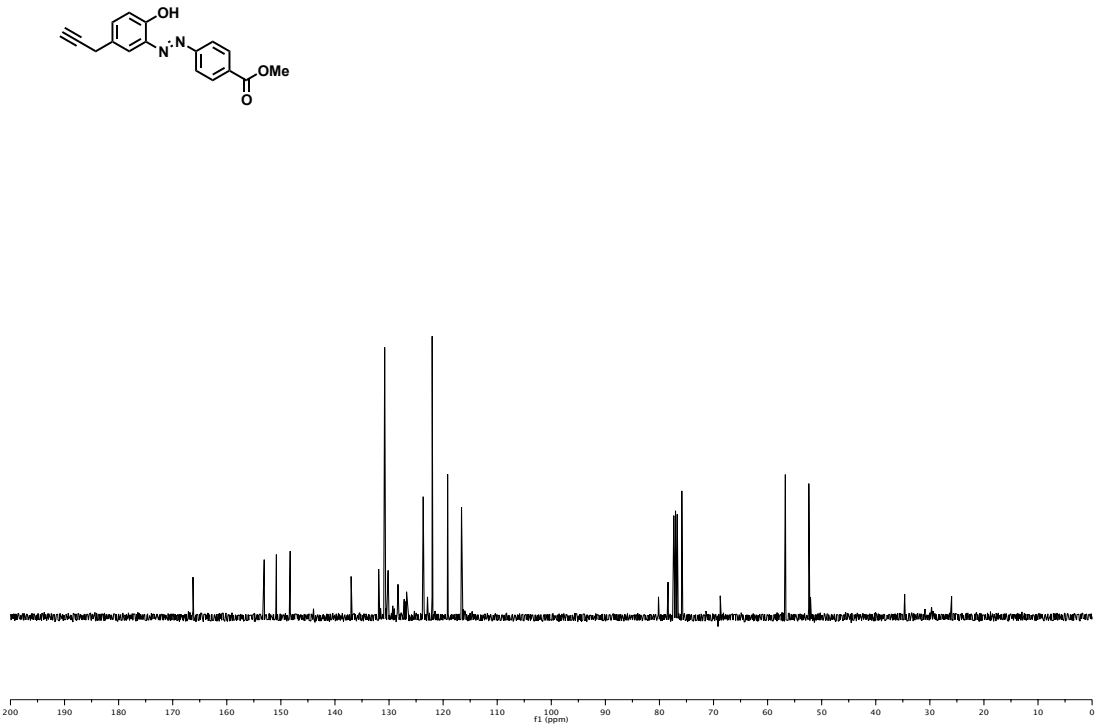


Figure S10. (E)-methyl 4-((2-hydroxy-5-(prop-2-yn-1-yl)phenyl)diazenyl)benzoate (**4**)

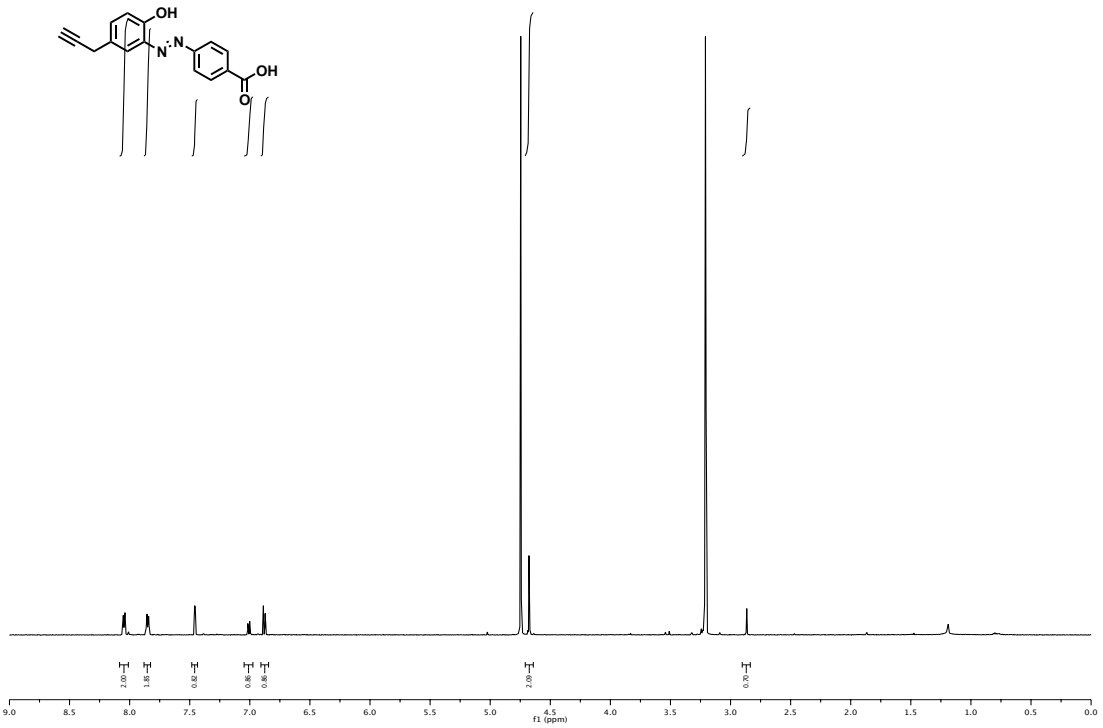


Figure S11. 4-((2-hydroxy-5-(prop-2-yn-1-yl)phenyl)diazenyl)benzoic acid (**5**)

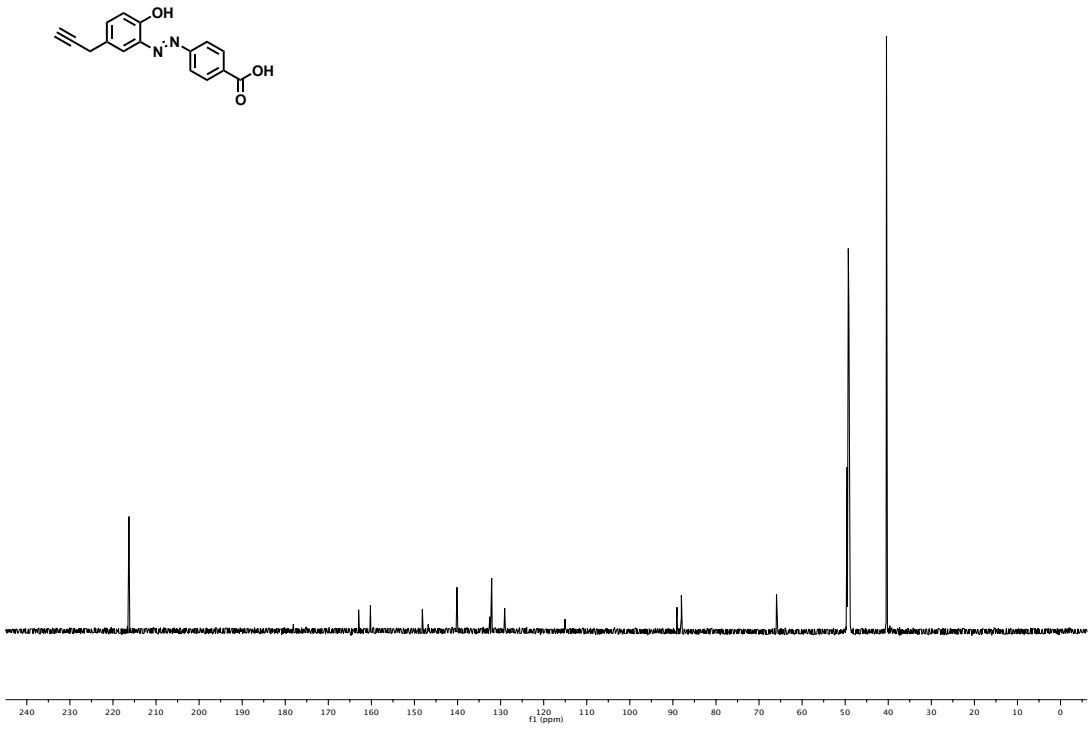


Figure S12. (E)-4-((2-hydroxy-5-(prop-2-yn-1-yl)phenyl)diazenyl)benzoic acid (**5**)

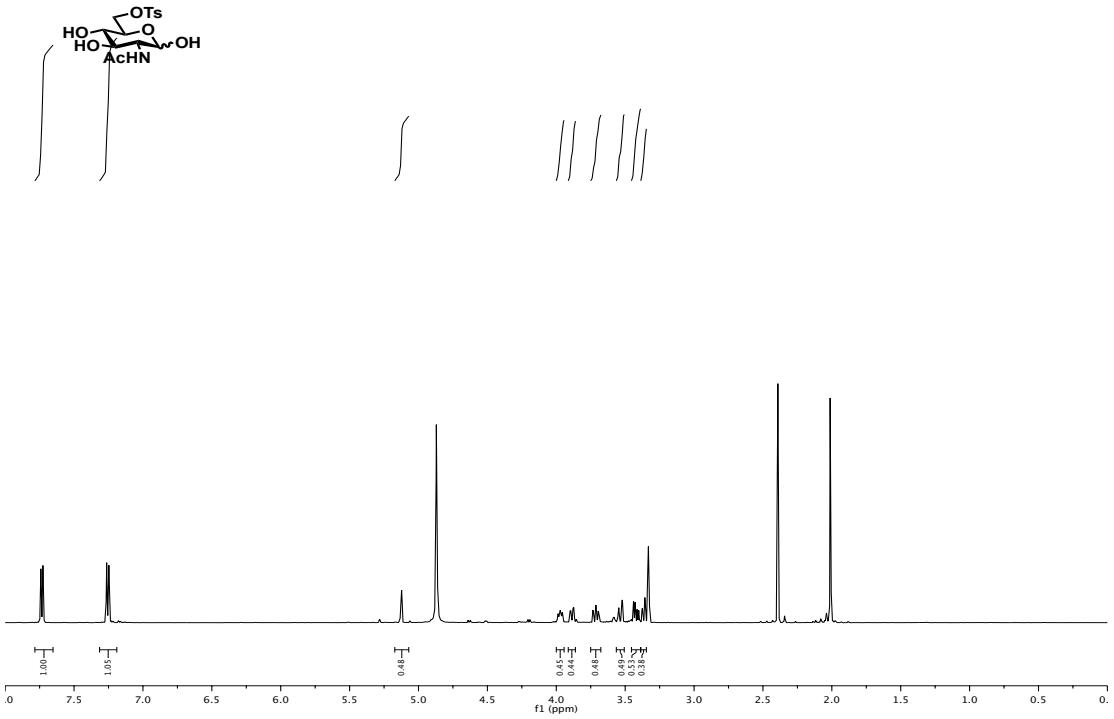


Figure S13. 6-O-p-methylbenzenesulfonate-N-acetyl-glucosamine (**8**)

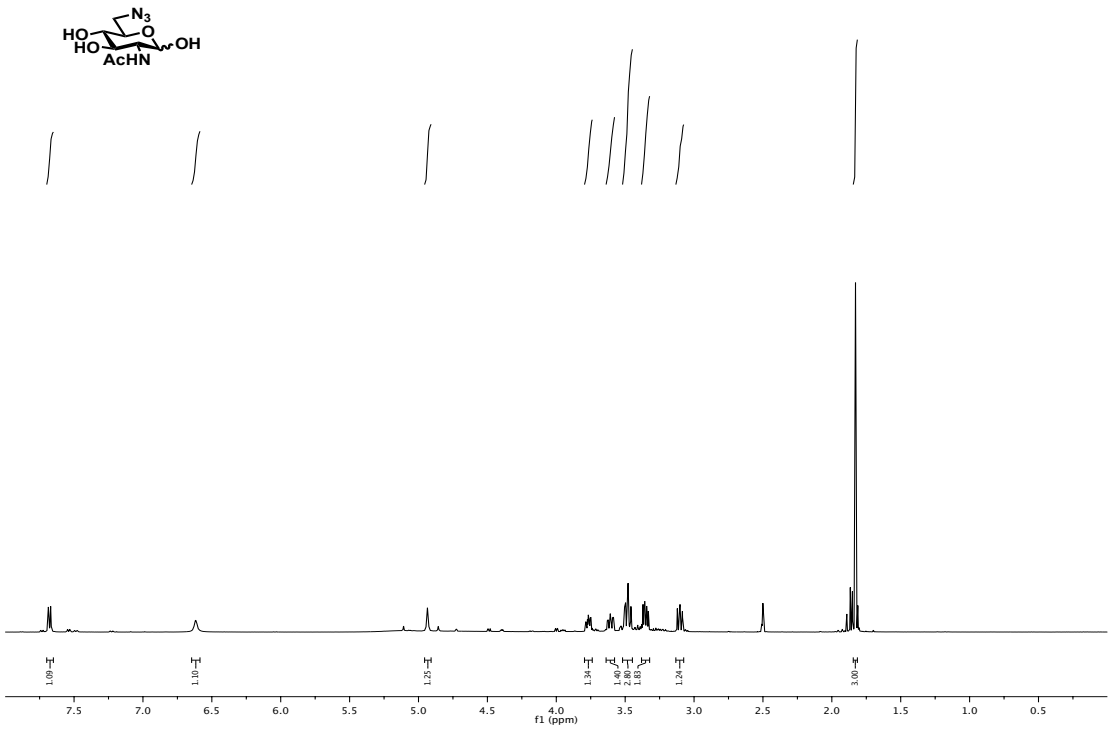


Figure S14. 6-azido-6-deoxy-N-acetyl-glucosamine (6AzGlcNAc**, 9**)

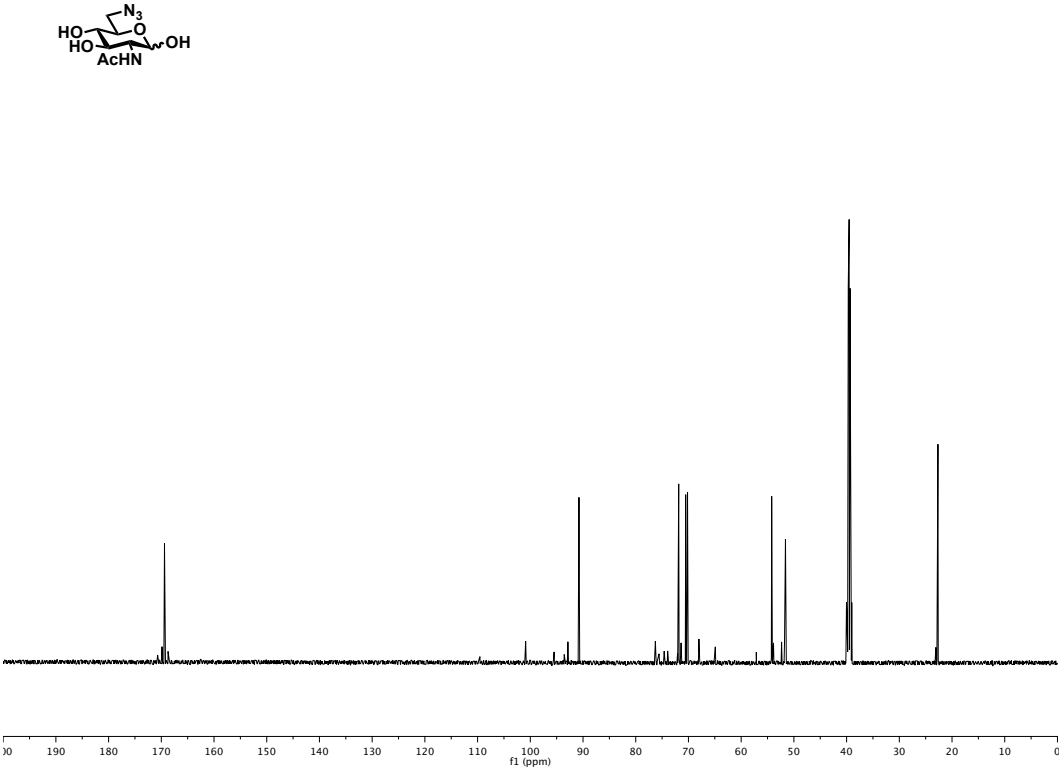


Figure S15. 6-azido-6-deoxy-N-acetyl-glucosamine (6AzGlcNAc**, 9**)

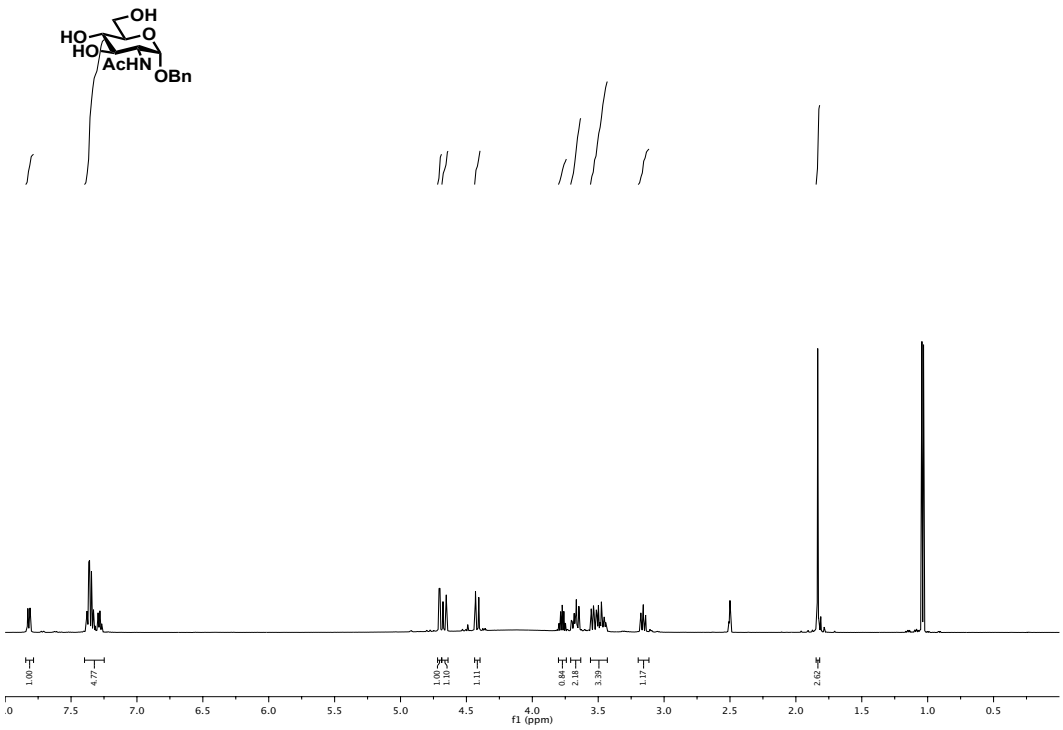


Figure S16. α-1-O-benzyl-N-acetyl-glucosamine (**10**)

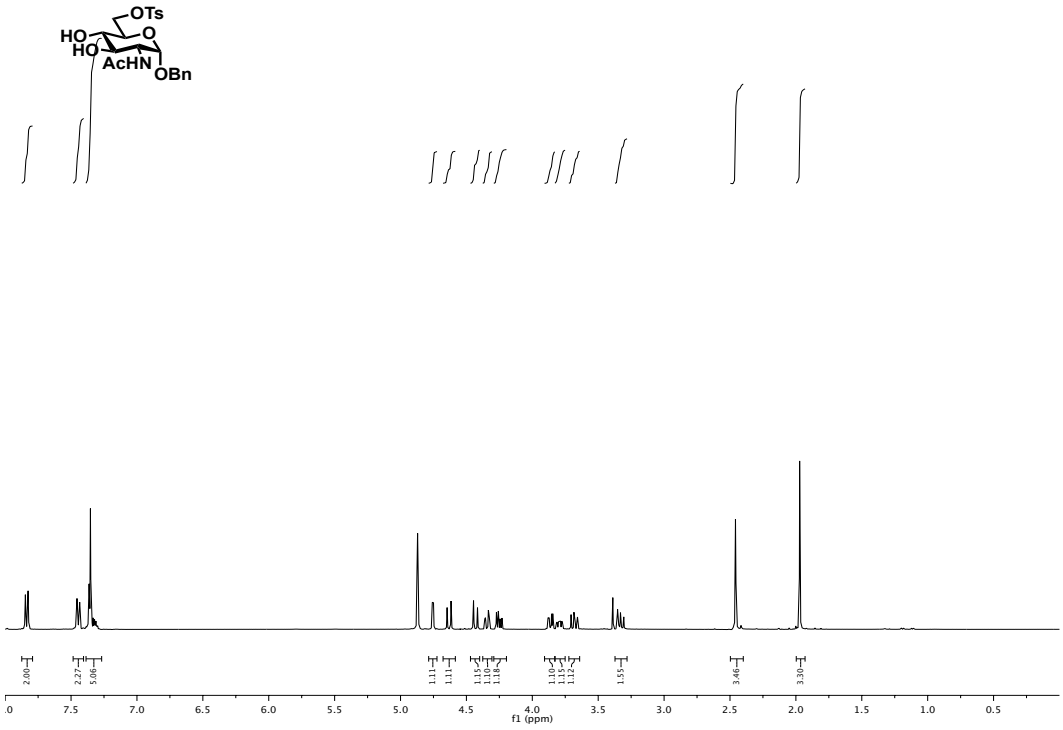


Figure S17. α-1-O-benzyl-6-O-p-methylbenzenesulfonate-N-acetyl-glucosamine (**11**)

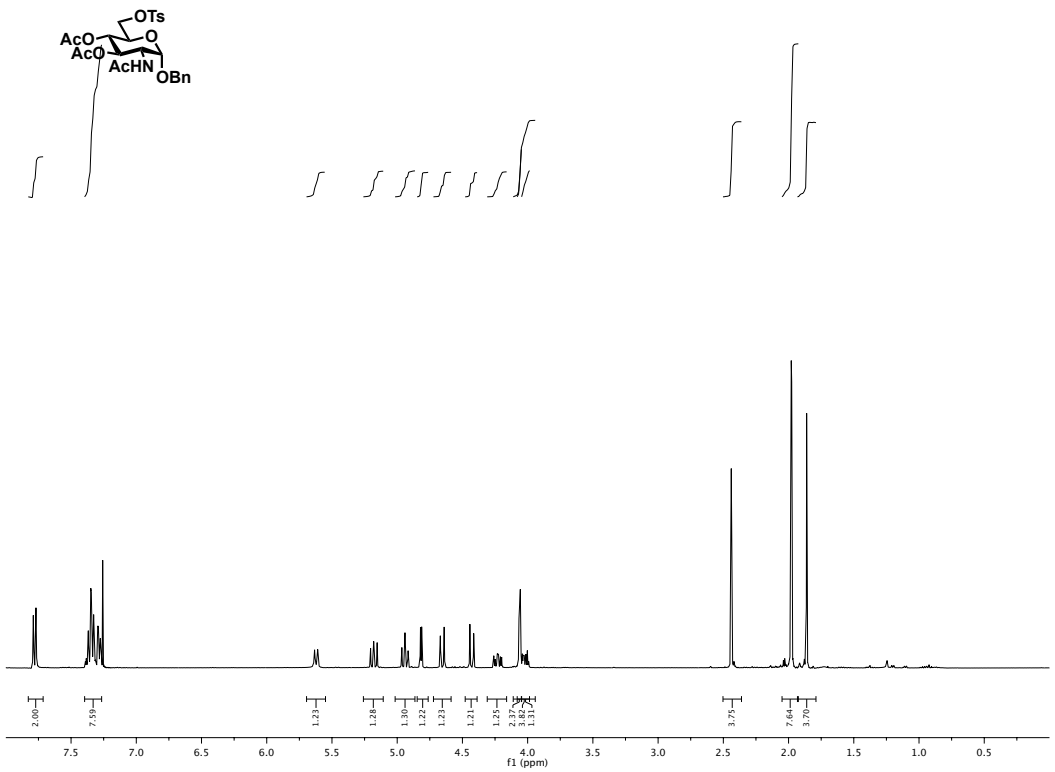


Figure S18. 3,4-di-O-acetyl-α-1-O-benzyl-6-O-p-methylbenzenesulfonate-N-acetyl-glucosamine (**12**)

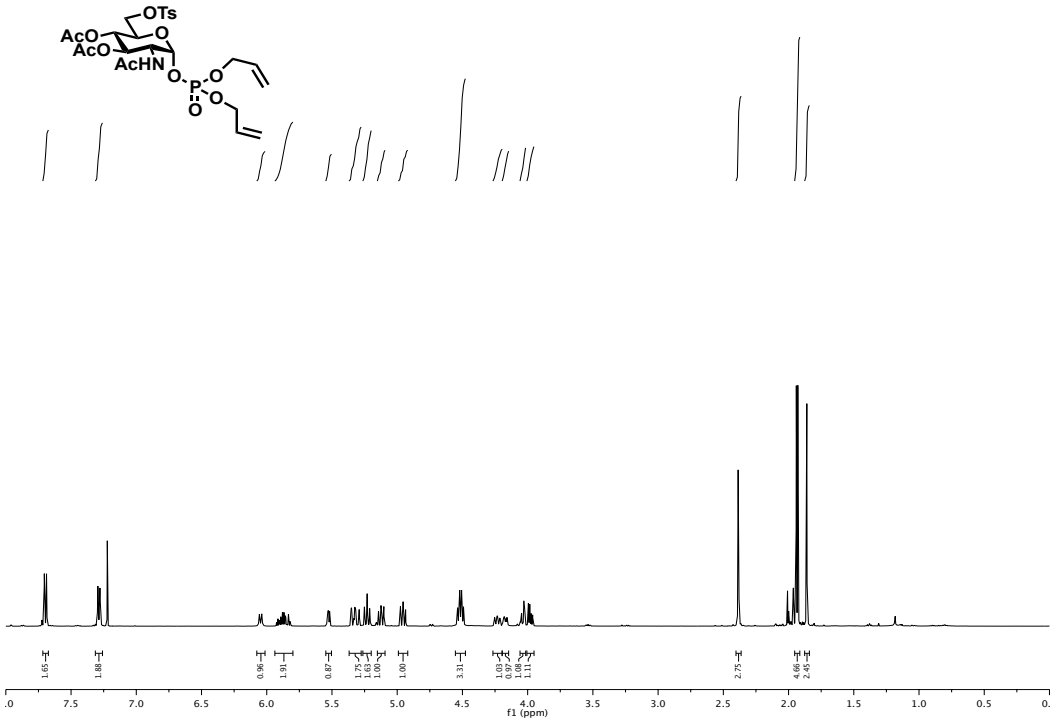


Figure S19. Diallyl(3,4-di-O-acetyl-6-O-p-methylbenzenesulfonate-N-acetyl-glucosamine)-α-1-phosphate (**14**)

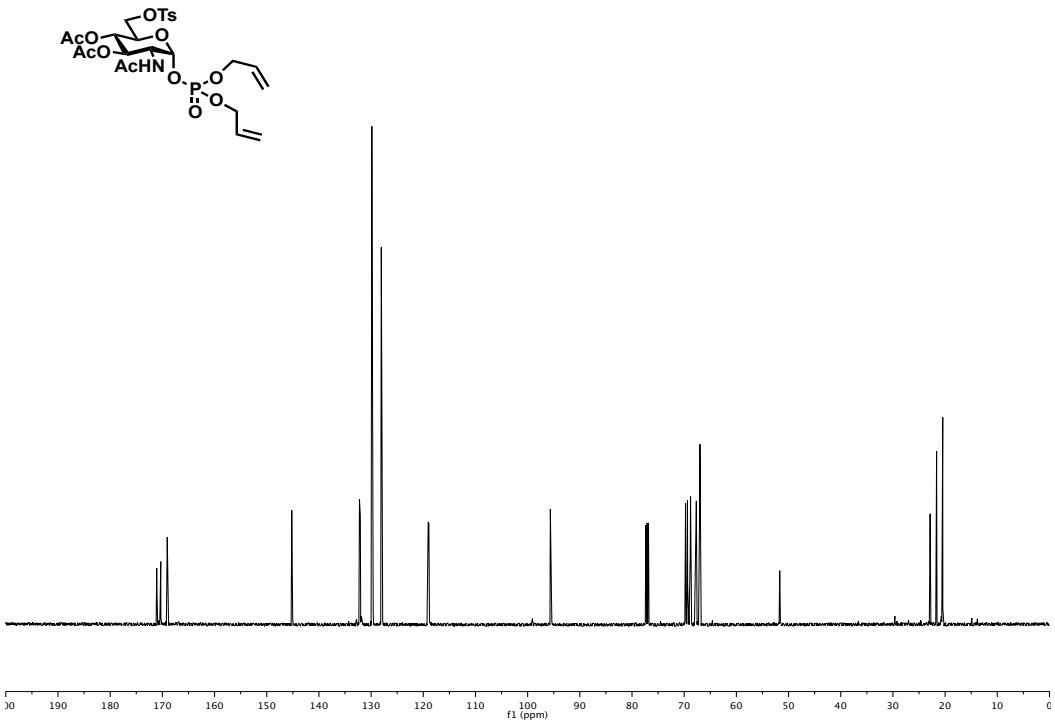


Figure S20. Diallyl(3,4-di-O-acetyl-6-O-p-methylbenzenesulfonate-N-acetyl-glucosamine)-α-1-phosphate (**14**)

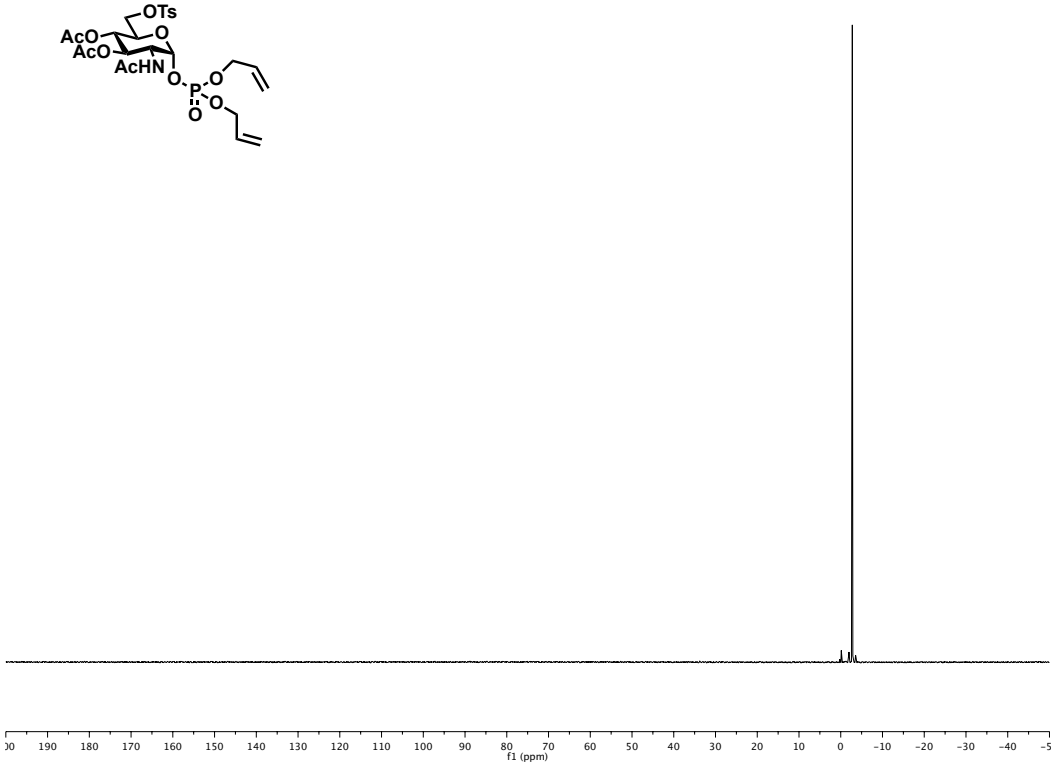


Figure S21. Diallyl(3,4-di-O-acetyl-6-O-p-methylbenzenesulfonate-N-acetyl-glucosamine)-α-1-phosphate (**14**)

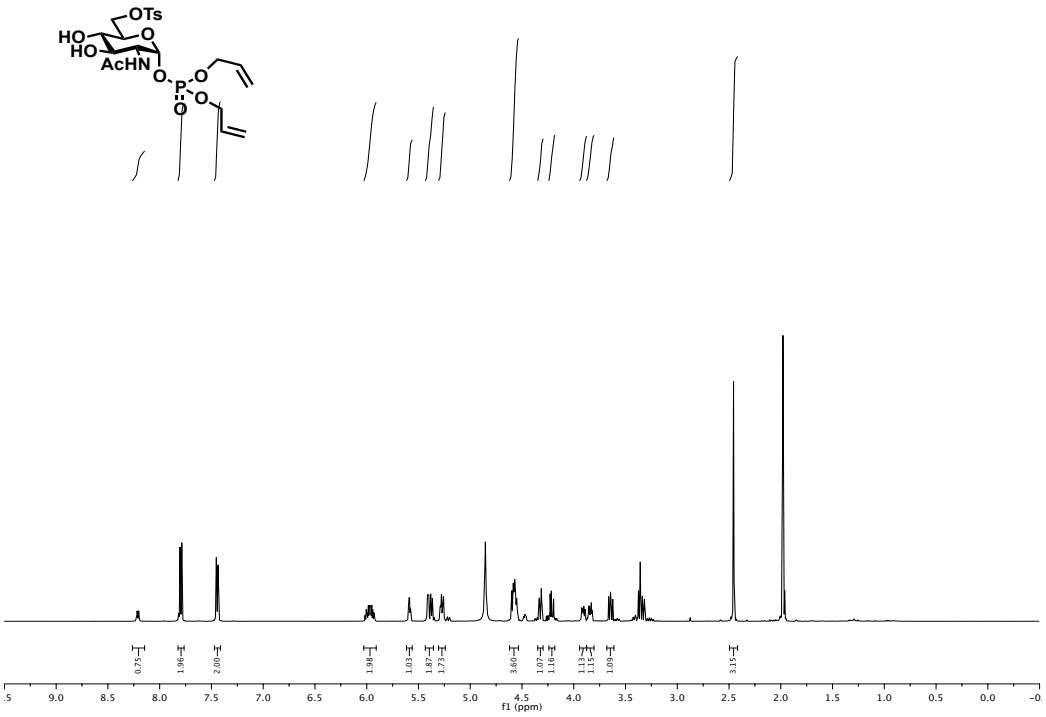


Figure S22. Diallyl(6-O-p-methylbenzenesulfonate-N-acetyl-glucosamine)-α-1-phosphate (**15**)

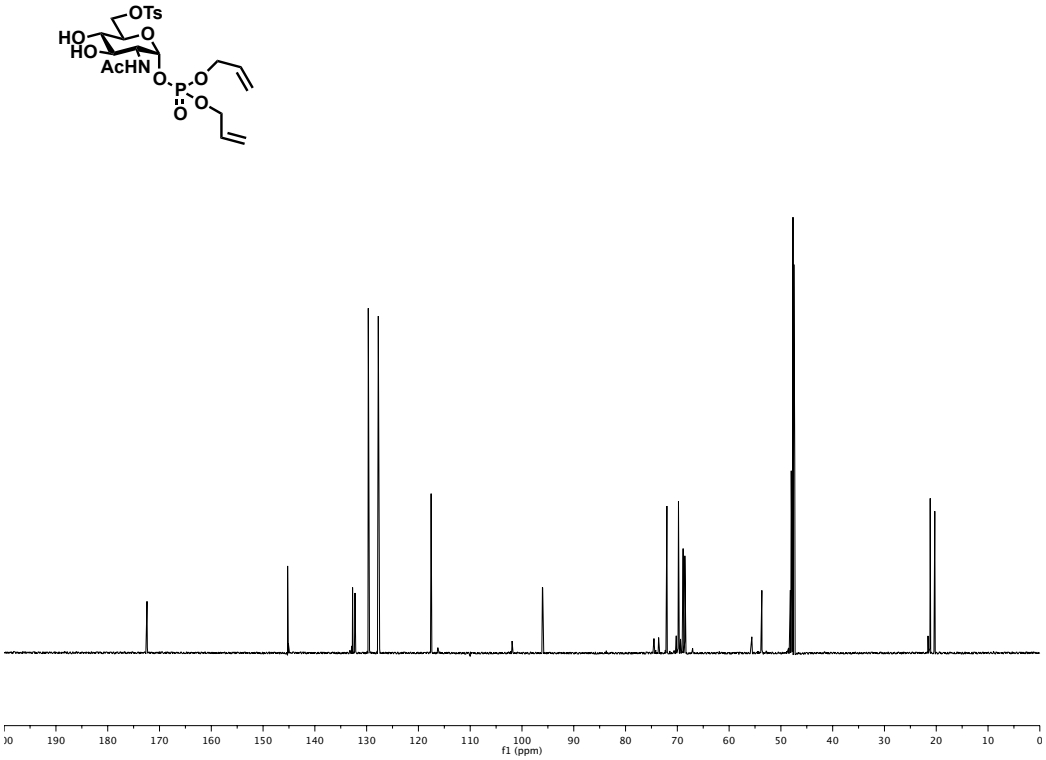


Figure S23. Diallyl(6-O-p-methylbenzenesulfonate-N-acetyl-glucosamine)-α-1-phosphate (**15**)

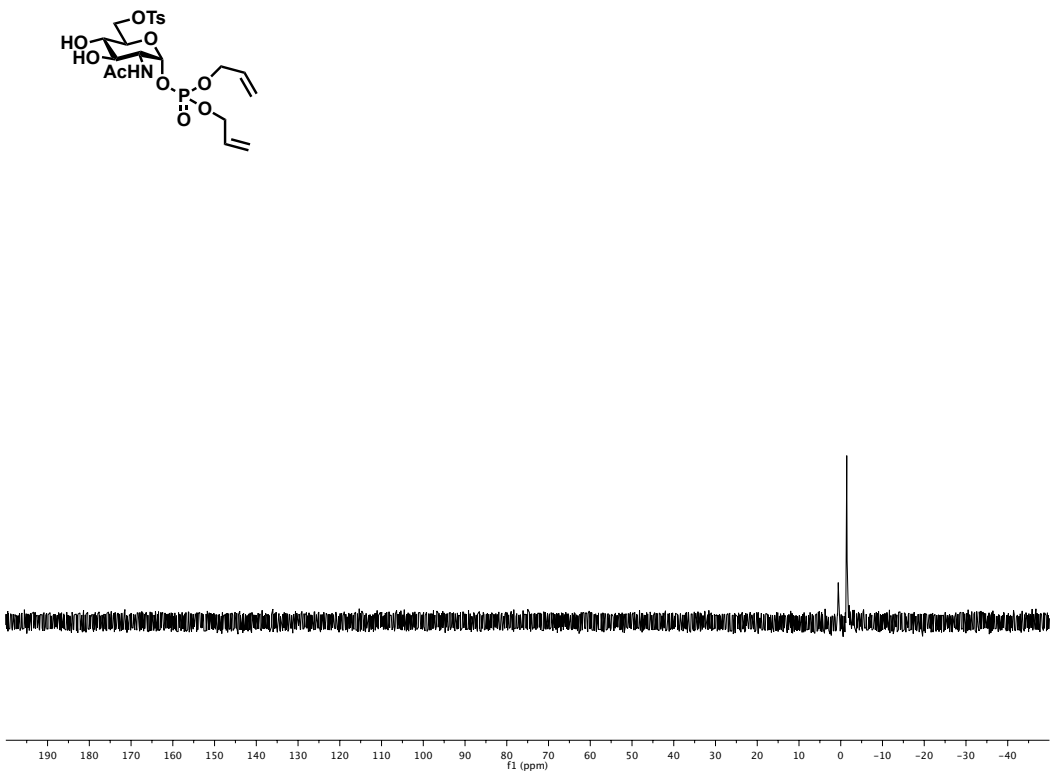


Figure S24. Diallyl(6-O-p-methylbenzenesulfonate-N-acetyl-glucosamine)-α-1-phosphate (**15**)

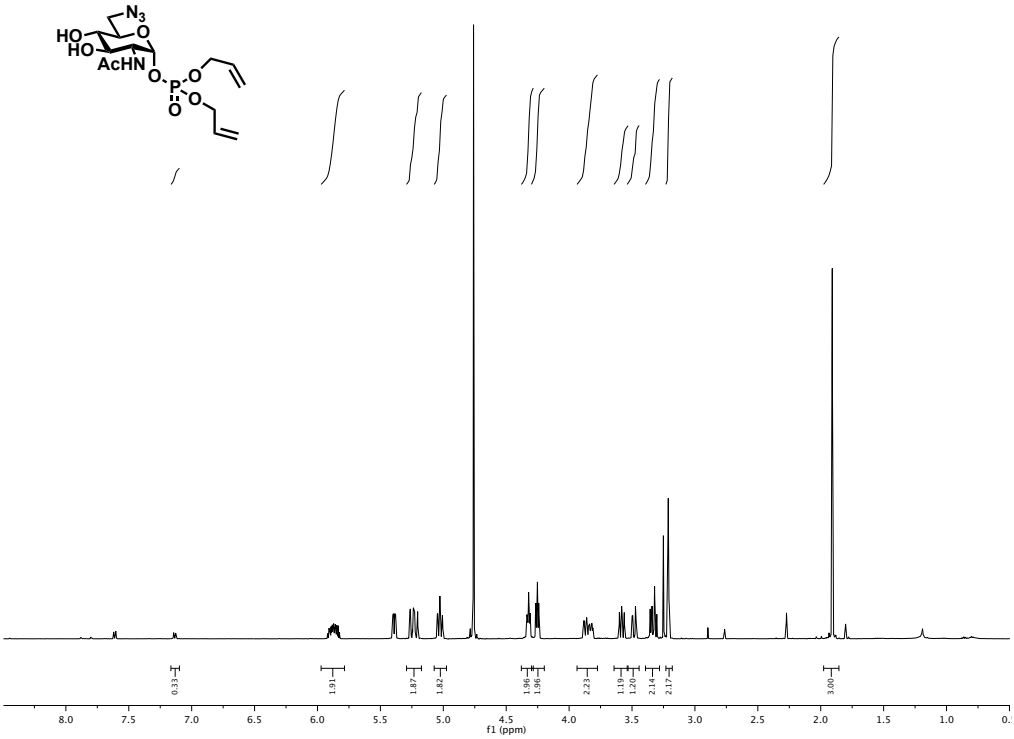


Figure S25. Diallyl(6-azido-6-deoxy-N-acetyl-glucosamine)-α-1-phosphate (**16**)

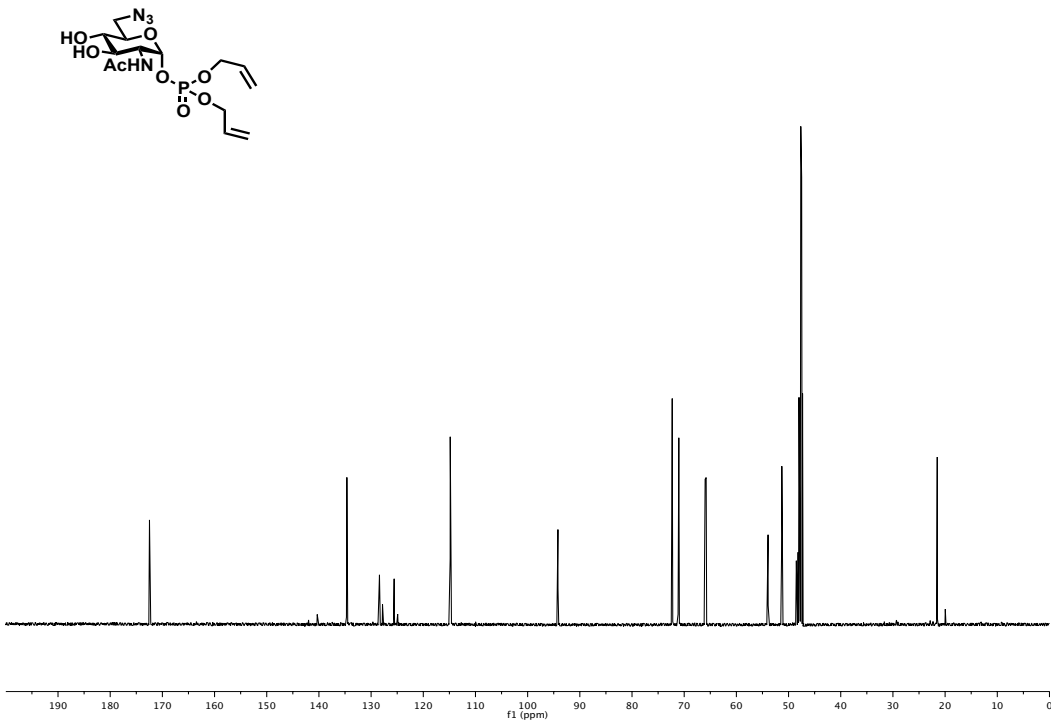


Figure S26. Diallyl(6-azido-6-deoxy-N-acetyl-glucosamine)-α-1-phosphate (**16**)

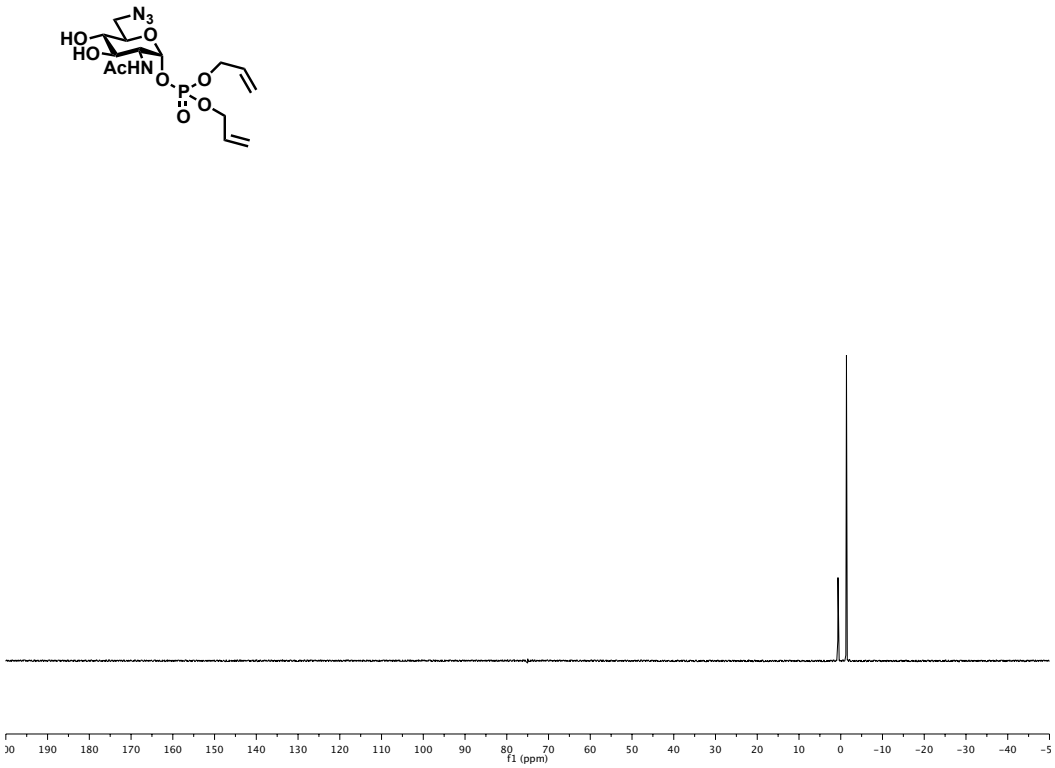


Figure S27. Diallyl(6-azido-6-deoxy-N-acetyl-glucosamine)-α-1-phosphate (**16**)

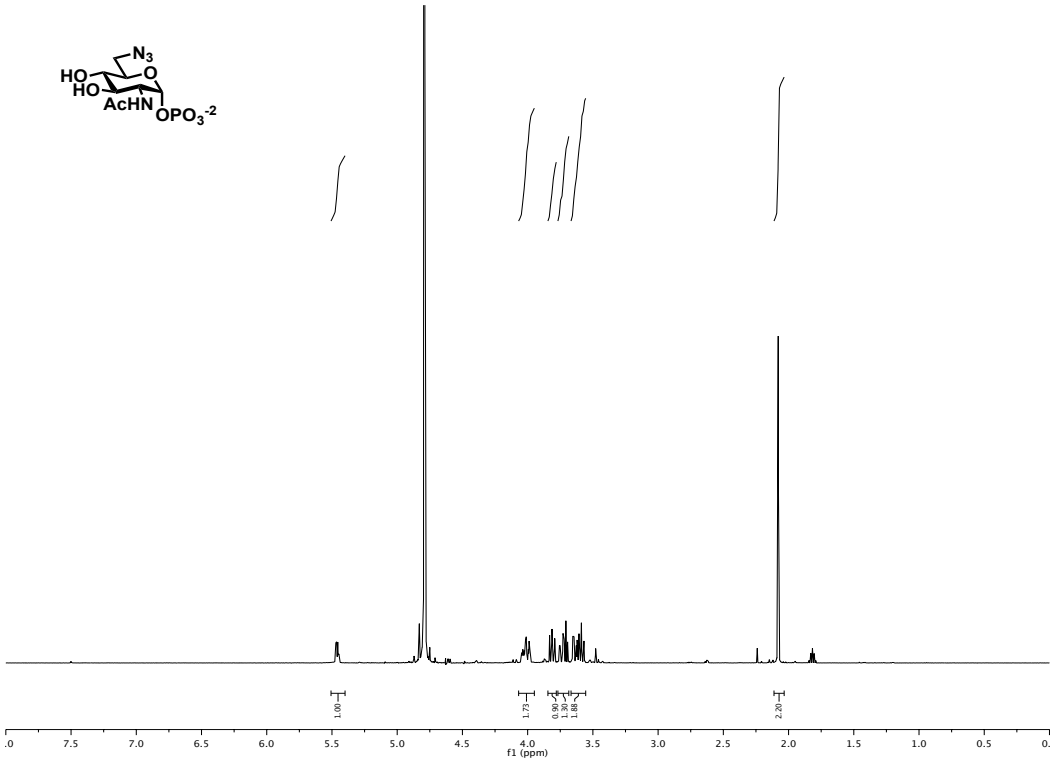


Figure S28. 6-azido-6-deoxy-N-acetyl-glucosamine-1-phosphate (**17**)

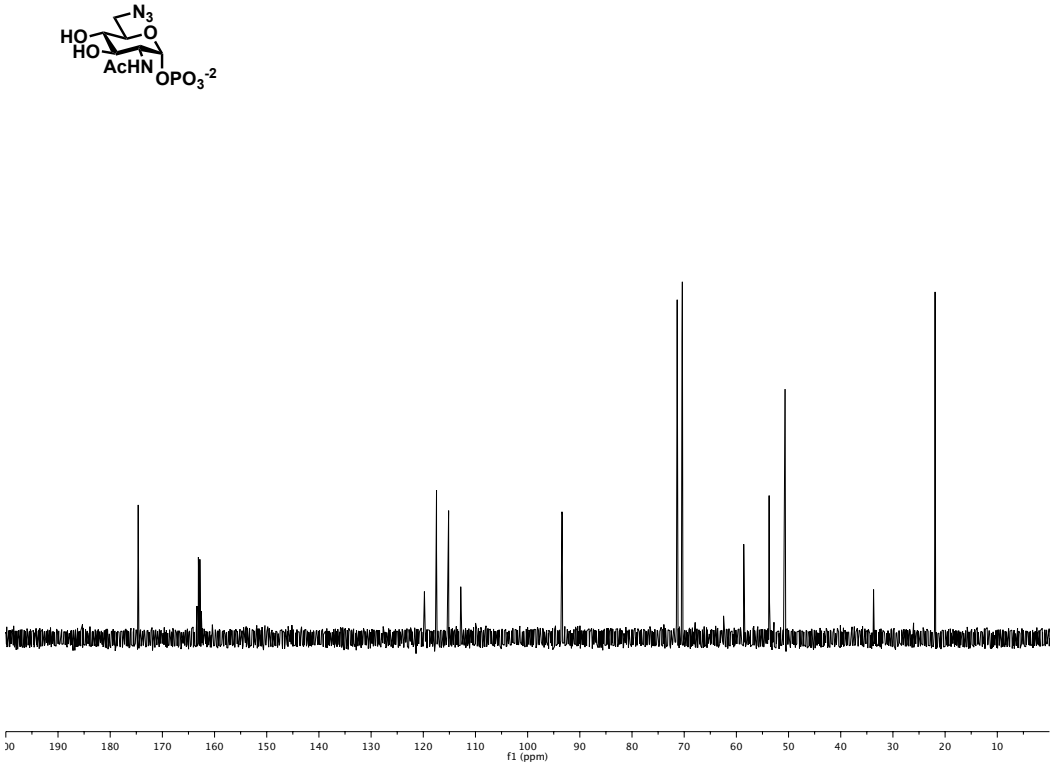


Figure S29. 6-azido-6-deoxy-N-acetyl-glucosamine-1-phosphate (**17**)

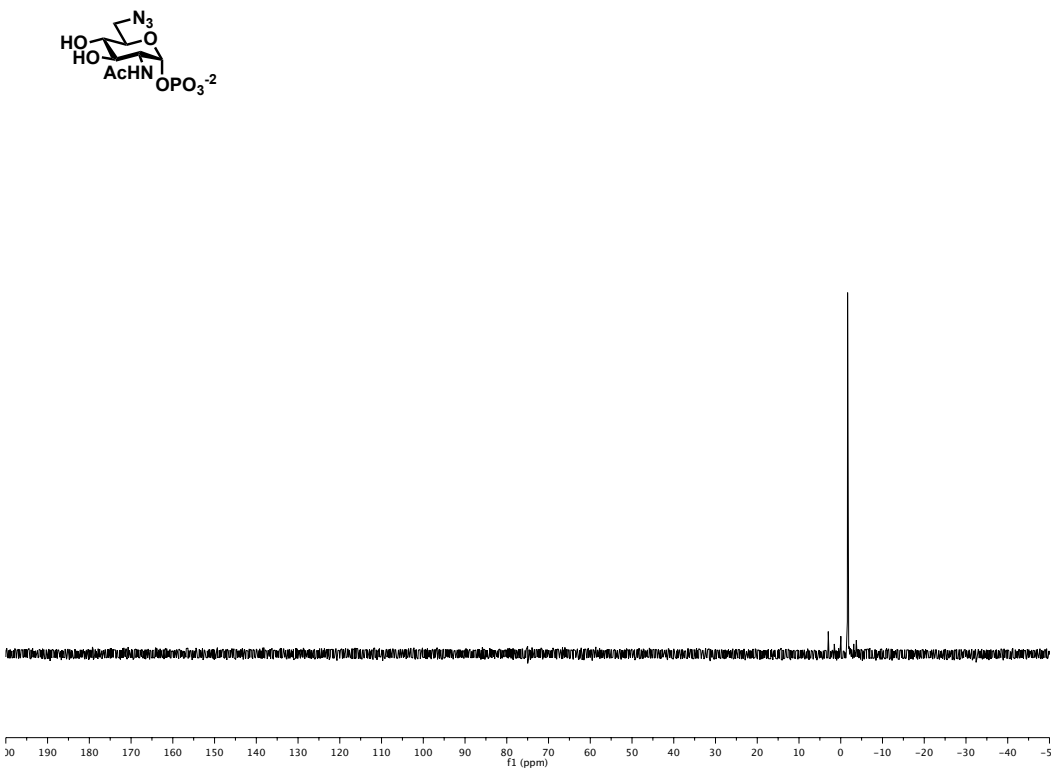


Figure S30. 6-azido-6-deoxy-N-acetyl-glucosamine-1-phosphate (**17**)

Supplementary Table 1. Proteins identified using 6AzGlcNAc enrichment. NIH 3T3 were treated in triplicate with either $Ac_3$6AzGlcNAc (200 μM, +) or Ac_4GlcNAc (200 μM, -) for 16 hours. At this time the cell lysates were subjected to CuAAC with alkyne-biotin, followed by enrichment with streptavidin beads and on-bead trypsinolysis. Labeled proteins were selected as those that were represented by at least 1 unique-peptide in each $Ac_3$6AzGlcNAc treated sample, a total of at least 3 spectral-counts from the same three samples, and at least a total of 3 times more spectral counts in the $Ac_3$6AzGlcNAc treated samples compared to Ac_4GlcNAc. Blue indicates proteins previously identified in O-GlcNAc proteomic studies, purple indicates proteins identified in both O-GlcNAc and mucin O-linked proteomic studies and red indicates proteins identified in only O-linked mucin proteomic studies. Novel proteins that were identified in this study are indicated in white.

				6AzGlcNAc Spectral Counts											Localization						
				Experiment 1		Experiment 2		Experiment 3		Sum											
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	GlcNAz	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
1	P27546-2	MAP4	Isoform 2 of Microtubule-associated protein 4	0	31	0	37	0	35	**0**	**103**	N/A	4.107E-05	117	✓			✓	✓	(9)(19)(23)(26)	
2	P58871	TB182	182 kDa tankyrase-1-binding protein	0	23	0	24	0	25	**0**	**72**	N/A	2.002E-06	182	✓			✓	✓	(1)(20)(23)(26)	
3	Q3THK7	GUAA	GMP synthase [glutamine-hydrolyzing]	0	19	0	19	0	21	**0**	**59**	N/A	7.862E-06	76.7	✓			✓		(26)	
4	Q9QUR6	PPCE	Prolyl endopeptidase	0	15	0	22	0	17	**0**	**54**	N/A	9.839E-04	80.7	✓			✓		(26)	(17)
5	P40124	CAP1	Adenylyl cyclase-associated protein 1	0	18	0	15	0	20	**0**	**53**	N/A	2.626E-04	51.5			✓	✓	✓	(9)(23)(26)	
6	Q3UZ39	LRRF1	Leucine-rich repeat flightless-interacting protein 1	0	15	0	20	0	15	**0**	**50**	N/A	5.620E-04	79.2	✓			✓		(23)(26)	
7	Q61584-5	FXR1	Isoform D of Fragile X mental retardation syndrome-related protein 1	0	17	0	17	0	13	**0**	**47**	N/A	3.001E-04	69.7	✓			✓		(9)	
8	P30416	FKBP4	Peptidyl-prolyl cis-trans isomerase FKBP4	0	16	0	16	0	13	**0**	**45**	N/A	1.151E-04	51.5	✓			✓		(5)(9)(23)(26)	
9	Q99PG2	OGFR	Opioid growth factor receptor	0	15	0	12	0	17	**0**	**44**	N/A	5.419E-04	70.6	✓			✓		(9)(23)	
10	Q00519	XDH	Xanthine dehydrogenase/oxidase	0	17	0	16	0	11	**0**	**44**	N/A	1.387E-03	147			✓	✓		(26)	
11	B1AU75	B1AU75	Nuclear autoantigenic sperm protein	0	17	0	14	0	13	**0**	**44**	N/A	2.588E-04	84.0	✓			✓		(26)	
12	A2A6U3	A2A6U3	Septin 9	0	18	0	16	0	10	**0**	**44**	N/A	3.650E-03	63.7	✓			✓		(26)	
13	Q9DCL9	PUR6	Multifunctional protein ADE2	0	16	0	17	0	10	**0**	**43**	N/A	2.797E-03	47.0	✓			✓		(18)(19)(23)(26)	
14	Q8VCQ8	Q8VCQ8	Caldesmon 1	0	15	0	12	0	15	**0**	**42**	N/A	1.510E-04	60.4	✓			✓	✓	(26)	
15	Q9ERG0	LIMA1	LIM domain and actin-binding protein 1	0	16	0	13	0	12	**0**	**41**	N/A	3.411E-04	84.0	✓			✓		(9)(23)(26)	
16	Q8BTI8-3	SRRM2	Isoform 3 of Serine/arginine repetitive matrix protein 2	0	15	0	13	0	13	**0**	**41**	N/A	3.344E-05	285	✓			✓		(9)(23)	
17	Q3UMF0-4	COBL1	Isoform 4 of Cordon-bleu protein-like 1	0	14	0	12	0	11	**0**	**37**	N/A	1.517E-04	130	✓			✓	✓		
18	O35286	DHX15	Putative pre-mRNA-splicing factor ATP-dependent RNA helicase	0	11	0	12	0	13	**0**	**36**	N/A	3.166E-05	90.9	✓					(9)(14)(23)(26)	
19	Q99K48	NONO	Non-POU domain-containing octamer-binding protein	0	11	0	13	0	11	**0**	**35**	N/A	6.260E-05	54.5	✓			✓	✓	(9)(19)(23)(24)(26)	
20	Q60865	CAPR1	Caprin-1	0	12	0	15	0	8	**0**	**35**	N/A	4.524E-03	78.1	✓			✓	✓	(19)(23)(26)	
21	P51125-3	ICAL	Isoform 3 of Calpastatin	0	10	0	14	0	10	**0**	**34**	N/A	1.051E-03	79.6	✓			✓		(26)	
22	Q3UMF0-3	COBL1	Isoform 3 of Cordon-bleu protein-like 1	0	13	0	11	0	10	**0**	**34**	N/A	2.114E-04	129	✓			✓	✓		
23	Q7TQH0-2	ATX2L	Isoform 2 of Ataxin-2-like protein	0	7	0	15	0	11	**0**	**33**	N/A	8.885E-03	113	✓			✓	✓	(19)(23)	
24	Q8BK67	RCC2	Protein RCC2 GN=Rcc2	0	7	0	11	0	14	**0**	**32**	N/A	6.251E-03	55.9	✓			✓		(9)(23)	
25	Q9Z1F9	SAE2	SUMO-activating enzyme subunit 2	0	11	0	11	0	10	**0**	**32**	N/A	5.685E-06	70.5	✓			✓	✓	(26)	
26	Q8C7R4	UBA6	Ubiquitin-like modifier-activating enzyme 6	0	11	0	13	0	7	**0**	**31**	N/A	4.237E-03	118	✓			✓		(9)(23)	
27	Q62418-3	DBNL	Isoform 3 of Drebrin-like protein	0	8	0	8	0	14	**0**	**30**	N/A	7.490E-03	48.3	✓			✓	✓	(9)(23)(26)	
28	Q8K298	ANLN	Actin-binding protein anillin	0	10	0	9	0	10	**0**	**29**	N/A	8.416E-06	123	✓			✓		(9)(23)(26)	
29	Q80YR5	SAFB2	Scaffold attachment factor B2	0	8	0	8	0	13	**0**	**29**	N/A	4.395E-03	112	✓			✓		(9)(23)	
30	Q8R5H1-5	UBP15	Isoform 5 of Ubiquitin carboxyl-terminal hydrolase 15	0	11	0	10	0	8	**0**	**29**	N/A	3.936E-04	109	✓					(23)	
31	Q60710	SAMH1	SAM domain and HD domain-containing protein 1	0	6	0	8	0	15	**0**	**29**	N/A	2.395E-02	72.6	✓			✓	✓	(23)	
32	Q9JLV1	BAG3	BAG family molecular chaperone regulator 3	0	9	0	9	0	10	**0**	**28**	N/A	9.679E-06	61.8	✓			✓	✓	(9)(23)(26)	(17)

				6AzGlcNAc																
				Spectral Counts																
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization				
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	GlcNAz	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
33	Q91W50	CSDE1	Cold shock domain-containing protein E1	0	9	0	10	0	9	**0**	**28**	N/A	9.679E-06	88.7	✓			✓		(9)(19)(23)	
34	Q61191	HCFC1	Host cell factor 1	0	13	0	11	0	4	**0**	**28**	N/A	2.676E-02	210	✓			✓	✓	(1)(2)(9)(13)(19)(20)(21)(22)(23)(24)(26)	
35	Q3TW96	UAP1L	UDP-N-acetylhexosamine pyrophosphorylase-like protein 1	0	11	0	11	0	6	**0**	**28**	N/A	4.992E-03	56.6	✓			✓	✓		
36	O09106	HDAC1	Histone deacetylase 1	0	11	0	10	0	6	**0**	**27**	N/A	4.150E-03	55.0	✓			✓		(9)(19)(23)	
37	Q9QXS6-3	DREB	Isoform E2 of Drebrin	0	9	0	8	0	10	**0**	**27**	N/A	9.888E-05	72.4	✓			✓	✓	(23)	
38	Q3U4W8	Q3U4W8	Ubiquitin carboxyl-terminal hydrolase	0	8	0	9	0	10	**0**	**27**	N/A	9.888E-05	93.3	✓				✓		
39	G5E8E1	G5E8E1	Leucine rich repeat (In FLII) interacting protein 1, isoform CRA_e	0	8	0	10	0	9	**0**	**27**	N/A	9.888E-05	48.9	✓			✓	✓		
40	Q7TQI3	OTUB1	Ubiquitin thioesterase OTUB1	0	9	0	10	0	6	**0**	**25**	N/A	2.272E-03	31.3	✓			✓		(5)(9)(23)(26)	
41	O70318	E41L2	Band 4.1-like protein 2	0	12	0	9	0	4	**0**	**25**	N/A	2.335E-02	110	✓			✓	✓	(20)(23)	
42	Q9CT10	RANB3	Ran-binding protein 3	0	9	0	9	0	7	**0**	**25**	N/A	2.356E-04	52.5	✓			✓			
43	Q05CL8	LARP7	La-related protein 7	0	8	0	9	0	7	**0**	**24**	N/A	1.573E-04	64.8	✓			✓		(9)(23)	
44	Q8R050-2	ERF3A	Isoform 2 of Eukaryotic peptide chain release factor GTP-binding subunit ERF3A	0	9	0	8	0	7	**0**	**24**	N/A	1.573E-04	68.5	✓			✓		(23)(26)	
45	P31230	AIMP1	Aminoacyl tRNA synthase complex-interacting multifunctional protein 1	0	8	0	8	0	8	**0**	**24**	N/A	0.000E+00	34.0			✓	✓	✓	(1)	
46	Q9CPV4-3	GLOD4	Isoform 3 of Glyoxalase domain-containing protein 4	0	7	0	10	0	6	**0**	**23**	N/A	3.098E-03	30.8	✓			✓		(9)(23)(26)	
47	Q9CZD3	SYG	Glycine--tRNA ligase	0	6	0	6	0	11	**0**	**23**	N/A	1.003E-02	81.8	✓			✓	✓	(14)(23)(26)	
48	P51859	HDGF	Hepatoma-derived growth factor	0	7	0	8	0	7	**0**	**22**	N/A	2.526E-05	26.3	✓			✓	✓	(9)(23)(26)	
49	G3X9V0	G3X9V0	MCG22048, isoform CRA_a	0	6	0	8	0	8	**0**	**22**	N/A	3.882E-04	26.1	✓			✓			
50	O70310	NMT1	Glycylpeptide N-tetradecanoyltransferase 1	0	6	0	5	0	10	**0**	**21**	N/A	1.016E-02	56.9	✓			✓		(9)(23)	(17)
51	Q6PAM1	TXLNA	Alpha-taxilin	0	6	0	8	0	7	**0**	**21**	N/A	2.655E-04	62.3	✓					(9)(23)(26)	
52	Q8WTY4	CPIN1	Anamorsin	0	10	0	4	0	7	**0**	**21**	N/A	1.559E-02	33.4	✓					(26)	
53	P46664	PURA2	Adenylosuccinate synthetase isozyme 2	0	6	0	9	0	6	**0**	**21**	N/A	2.192E-03	50.0	✓					(23)	
54	O54988-2	SLK	Isoform 2 of STE20-like serine/threonine-protein kinase	0	10	0	7	0	4	**0**	**21**	N/A	1.559E-02	138	✓					(14)(26)	
55	Q9DBG5	PLIN3	Perilipin-3	0	8	0	6	0	7	**0**	**21**	N/A	2.655E-04	47.2	✓			✓	✓	(1)(9)(20)(23)	
56	Q64012-2	RALY	Isoform 1 of RNA-binding protein Raly	0	7	0	7	0	7	**0**	**21**	N/A	0.000E+00	31.2	✓			✓			
57	J3QNB1	J3QNB1	La-related protein 1	0	6	0	7	0	8	**0**	**21**	N/A	2.655E-04	121	✓			✓			
58	Q8JZK9	HMCS1	Hydroxymethylglutaryl-CoA synthase, cytoplasmic	0	7	0	7	0	6	**0**	**20**	N/A	3.688E-05	57.5	✓			✓		(5)	
59	P70372	ELAV1	ELAV-like protein 1	0	6	0	8	0	6	**0**	**20**	N/A	5.620E-04	36.1	✓			✓		(19)(26)	
60	Q8R1X6	SPG20	Spartin	0	9	0	8	0	3	**0**	**20**	N/A	2.292E-02	72.6	✓			✓		(1)(20)	
61	Q9Z0E6	GBP2	Interferon-induced guanylate-binding protein 2	0	8	0	8	0	4	**0**	**20**	N/A	7.490E-03	66.7	✓			✓			
62	Q9WTK5	NFKB2	Nuclear factor NF-kappa-B p100 subunit	0	6	0	7	0	6	**0**	**19**	N/A	4.520E-05	96.8	✓			✓	✓	(9)(23)(26)	
63	A2AMW0	A2AMW0	Capping protein (Actin filament) muscle Z-line, beta	0	7	0	8	0	4	**0**	**19**	N/A	6.214E-03	29.3	✓			✓		(5)(26)	
64	P45377	ALD2	Aldose reductase-related protein 2	0	8	0	6	0	5	**0**	**19**	N/A	1.991E-03	36.1	✓			✓	✓	(26)	
65	Q60967	PAPS1	Bifunctional 3'-phosphoadenosine 5'-phosphosulfate synthase 1	0	7	0	6	0	6	**0**	**19**	N/A	4.520E-05	70.7	✓			✓			
66	D3YXK2	SAFB1	Scaffold attachment factor B1	0	6	0	6	0	7	**0**	**19**	N/A	4.520E-05	105	✓			✓	✓		
67	Q8C052	MAP1S	Microtubule-associated protein 1S	0	6	0	6	0	6	**0**	**18**	N/A	0.000E+00	103	✓			✓		(9)(23)(26)	
68	Q9Z1D1	EIF3G	Eukaryotic translation initiation factor 3 subunit G	0	6	0	7	0	5	**0**	**18**	N/A	4.841E-04	35.6	✓			✓	✓	(9)(19)(23)(26)	
69	Q8C156	CND2	Condensin complex subunit 2	0	6	0	6	0	6	**0**	**18**	N/A	0.000E+00	82.3	✓			✓		(23)	
70	P35235	PTN11	Tyrosine-protein phosphatase non-receptor type 11	0	6	0	5	0	7	**0**	**18**	N/A	4.841E-04	68.4	✓			✓		(14)(23)	
71	Q8BVY0	Q8BVY0	Protein Rsl1d1	0	6	0	6	0	6	**0**	**18**	N/A	0.000E+00	50.4	✓			✓			
72	Q6PHZ2-2	KCC2D	Isoform 2 of Calcium/calmodulin-dependent protein kinase type II subunit delta	0	7	0	6	0	5	**0**	**18**	N/A	4.841E-04	54.1	✓			✓			
73	E9Q066	E9Q066	La-related protein 4	0	7	0	5	0	6	**0**	**18**	N/A	4.841E-04	79.6	✓			✓			

				6AzGlcNAc																
				Spectral Counts												Localization				
				Experiment 1		Experiment 2		Experiment 3		Sum										
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	GlcNAz	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
74	Q8BMK4	CKAP4	Cytoskeleton-associated protein 4	0	6	0	6	0	5	**0**	**17**	N/A	7.021E-05	63.7			✓				(16)
75	Q08093	CNN2	Calponin-2	0	7	0	6	0	4	**0**	**17**	N/A	3.016E-03	33.1	✓			✓	✓	(9)(23)(26)	
76	Q91Z38	TTC1	Tetratricopeptide repeat protein 1	0	6	0	6	0	5	**0**	**17**	N/A	7.021E-05	33.2	✓			✓		(9)(23)	
77	O70551	SRPK1	SRSF protein kinase 1	0	3	0	6	0	8	**0**	**17**	N/A	1.754E-02	73.0	✓			✓		(9)(23)	
78	Q9DAW9	CNN3	Calponin-3 GN=Cnn3 PE=2 SV=1 - [CNN3_MOUSE]	0	5	0	4	0	8	**0**	**17**	N/A	9.206E-03	36.4	✓					(9)	
79	P24288	BCAT1	Branched-chain-amino-acid aminotransferase, cytosolic	0	5	0	6	0	5	**0**	**16**	N/A	8.922E-05	42.8	✓					(9)(23)(26)	
80	Q6ZPJ3	UBE2O	Ubiquitin-conjugating enzyme E2 O	0	5	0	5	0	6	**0**	**16**	N/A	8.922E-05	141	✓					(9)(23)	
81	Q9Z110-2	P5CS	Isoform Short of Delta-1-pyrroline-5-carboxylate synthase	0	7	0	5	0	4	**0**	**16**	N/A	3.772E-03	87.0	✓			✓		(23)(26)	
82	P32921-2	SYWC	Isoform 2 of Tryptophan--tRNA ligase, cytoplasmic	0	6	0	3	0	7	**0**	**16**	N/A	1.135E-02	53.6	✓			✓		(14)(23)	
83	Q8K354	CYTB	Carbonyl reductase [NADPH] 3	0	4	0	6	0	6	**0**	**16**	N/A	1.324E-03	30.9	✓			✓			
84	Q6NZD2	Q6NZD2	Sorting nexin 1	0	7	0	5	0	4	**0**	**16**	N/A	3.772E-03	58.8	✓			✓	✓		
85	G3UZI2	G3UZI2	Heterogeneous nuclear ribonucleoprotein Q	0	5	0	6	0	5	**0**	**16**	N/A	8.922E-05	58.7	✓						
86	P23198	CBX3	Chromobox protein homolog 3	0	5	0	5	0	5	**0**	**15**	N/A	0.000E+00	20.8	✓			✓		(9)(23)(26)	
87	P97452	BOP1	Ribosome biogenesis protein BOP1	0	6	0	5	0	4	**0**	**15**	N/A	9.781E-04	82.5	✓					(9)(23)	
88	Q9JLM8	DCLK1	Serine/threonine-protein kinase DCLK1	0	4	0	6	0	5	**0**	**15**	N/A	9.781E-04	84.1	✓			✓		(5)(20)	
89	Q9D819	IPYR	Inorganic pyrophosphatase	0	6	0	4	0	5	**0**	**15**	N/A	9.781E-04	32.6	✓					(23)(26)	
90	Q64737	PUR2	Trifunctional purine biosynthetic protein adenosine-3	0	6	0	5	0	4	**0**	**15**	N/A	9.781E-04	107	✓					(23)(26)	
91	O09172	GSH0	Glutamate--cysteine ligase regulatory subunit	0	5	0	6	0	4	**0**	**15**	N/A	9.781E-04	30.5	✓			✓		(23)(26)	
92	P61759	PFD3	Prefoldin subunit 3	0	4	0	6	0	5	**0**	**15**	N/A	9.781E-04	22.4	✓						
93	E9PZM7	E9PZM7	Protein Scaf11	0	7	0	3	0	5	**0**	**15**	N/A	1.235E-02	162	✓						
94	P42567	EPS15	Epidermal growth factor receptor substrate 15	0	3	0	6	0	5	**0**	**14**	N/A	6.122E-03	98.4	✓					(9)(23)	
95	B2RRE7	OTUD4	OTU domain-containing protein 4	0	4	0	6	0	4	**0**	**14**	N/A	2.192E-03	123	✓				✓	(9)(23)	
96	Q8R2M2	TDIF2	Deoxynucleotidyltransferase terminal-interacting protein 2	0	5	0	5	0	4	**0**	**14**	N/A	1.510E-04	84.2	✓			✓		(23)	
97	Q9WU78	PDC6I	Programmed cell death 6-interacting protein	0	5	0	5	0	4	**0**	**14**	N/A	1.510E-04	96.0	✓			✓	✓		
98	Q62426	CYTB	Cystatin-B	0	4	0	6	0	4	**0**	**14**	N/A	2.192E-03	11.0	✓			✓			
99	P98078	DAB2	Disabled homolog 2	0	4	0	7	0	3	**0**	**14**	N/A	1.780E-02	82.3	✓			✓	✓		
100	F6T2Z7	F6T2Z7	Protein Cald1 (Fragment)	0	5	0	3	0	6	**0**	**14**	N/A	6.122E-03	41.4	✓			✓	✓		
101	Q8K310	MATR3	Matrin-3	0	3	0	5	0	5	**0**	**13**	N/A	2.890E-03	94.6	✓			✓		(9)(23)(26)	
102	Q8CI11	GNL3	Guanine nucleotide-binding protein-like 3	0	4	0	4	0	5	**0**	**13**	N/A	2.020E-04	60.7	✓					(9)(23)(26)	
103	P70288	HDAC2	Histone deacetylase 2	0	5	0	4	0	4	**0**	**13**	N/A	2.020E-04	55.3	✓			✓		(9)(23)	
104	P37913	DNLI1	DNA ligase 1	0	6	0	3	0	4	**0**	**13**	N/A	7.966E-03	102	✓					(26)	
105	P49586	PCY1A	Choline-phosphate cytidylyltransferase A	0	4	0	6	0	3	**0**	**13**	N/A	7.966E-03	41.6	✓			✓		(23)	
106	Q6P5B5	Q6P5B5	Fragile X mental retardation syndrome-related protein 2	0	3	0	5	0	5	**0**	**13**	N/A	2.890E-03	74.2	✓			✓			
107	Q61081	CDC37	Hsp90 co-chaperone Cdc37	0	3	0	5	0	4	**0**	**12**	N/A	2.278E-03	44.6	✓			✓		(9)(23)(26)	
108	Q9QXD8	LIMD1	LIM domain-containing protein 1	0	4	0	5	0	3	**0**	**12**	N/A	2.278E-03	71.4	✓					(9)(23)	
109	Q8BK64	AHSA1	Activator of 90 kDa heat shock protein ATPase homolog 1	0	5	0	4	0	3	**0**	**12**	N/A	2.278E-03	38.1	✓					(9)(23)	
110	Q5UE59	Q5UE59	Kinesin light chain 1	0	3	0	3	0	6	**0**	**12**	N/A	1.613E-02	61.6	✓			✓			
111	O89110	CASP8	Caspase-8	0	5	0	4	0	3	**0**	**12**	N/A	2.278E-03	55.3	✓			✓			
112	O08529	CAN2	Calpain-2 catalytic subunit	0	4	0	5	0	3	**0**	**12**	N/A	2.278E-03	79.8	✓			✓			
113	B7ZP47	B7ZP47	Wapal protein	0	3	0	3	0	6	**0**	**12**	N/A	1.613E-02	133	✓			✓			
114	Q9JKF1	IQGA1	Ras GTPase-activating-like protein IQGAP1	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	189	✓					(14)(23)	(17)
115	Q6PGH2	HN1L	Hematological and neurological expressed 1-like protein	0	3	0	4	0	4	**0**	**11**	N/A	3.882E-04	20.0	✓			✓		(9)(23)(26)	(16)

				6AzGlcNAc Spectral Counts												Localization						
				Experiment 1		Experiment 2		Experiment 3		Sum												
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	GlcNAz	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
116	Q810D6	GRWD1	Glutamate-rich WD repeat-containing protein 1	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	49.2	✓					(9)(23)	
117	P42227-2	STAT3	Isoform Stat3B of Signal transducer and activator of transcription 3	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	83.1	✓				✓	(9)	
118	P19096	FAS	Fatty acid synthase	0	2	0	5	0	4	**0**	**11**	N/A	1.417E-02	272	✓			✓		(5)(8)(23)	
119	Q7TSJ2-3	MAP6	Isoform 3 of Microtubule-associated protein 6	0	3	0	5	0	3	**0**	**11**	N/A	5.328E-03	32.8	✓			✓	✓	(5)	
120	Q9CXW3	CYBP	Calcyclin-binding protein	0	3	0	3	0	5	**0**	**11**	N/A	5.328E-03	26.5	✓			✓		(26)	
121	P52479	UBP10	Ubiquitin carboxyl-terminal hydrolase 10	0	5	0	3	0	3	**0**	**11**	N/A	5.328E-03	87.0	✓					(23)(26)	
122	O08915	AIP	AH receptor-interacting protein	0	3	0	5	0	3	**0**	**11**	N/A	5.328E-03	37.6	✓					(20)	
123	Q9DBC7	KAP0	cAMP-dependent protein kinase type I-alpha regulatory subunit	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	43.2	✓			✓			
124	Q9D4G5	Q9D4G5	Protein Pop1	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	114	✓						
125	Q8C650-2	SEP10	Isoform 2 of Septin-10	0	3	0	4	0	4	**0**	**11**	N/A	3.882E-04	49.8	✓						
126	Q5SSZ5-2	TENS3	Isoform 2 of Tensin-3	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	58.7	✓						
127	O55131	SEPT7	Septin-7	0	3	0	5	0	3	**0**	**11**	N/A	5.328E-03	50.5	✓						
128	G3X8Y3	G3X8Y3	N-alpha-acetyltransferase 15, NatA auxiliary subunit	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	101	✓						
129	E9Q2X6	E9Q2X6	Structural maintenance of chromosomes protein	0	2	0	4	0	5	**0**	**11**	N/A	1.417E-02	144	✓						
130	E9PX53	E9PX53	Serine/threonine-protein phosphatase 4 regulatory subunit 1	0	5	0	3	0	3	**0**	**11**	N/A	5.328E-03	104	✓						
131	Q8C1A5	THOP1	Thimet oligopeptidase	0	4	0	4	0	2	**0**	**10**	N/A	7.490E-03	78.0	✓					(9)(23)	(17)
132	P62774	MTPN	Myotrophin	0	2	0	3	0	5	**0**	**10**	N/A	1.944E-02	12.9	✓			✓		(9)(23)	
133	Q9QYA2	TOM40	Mitochondrial import receptor subunit TOM40 homolog	0	5	0	3	0	2	**0**	**10**	N/A	1.944E-02	37.9	✓					(23)	
134	Q9QWF0	CAF1A	Chromatin assembly factor 1 subunit A	0	4	0	3	0	3	**0**	**10**	N/A	5.620E-04	102	✓					(23)	
135	Q9CXF4	TBC15	TBC1 domain family member 15	0	2	0	4	0	4	**0**	**10**	N/A	7.490E-03	76.5	✓					(23)	
136	Q3UY34	CL043	Uncharacterized protein C12orf43 homolog	0	4	0	3	0	3	**0**	**10**	N/A	5.620E-04	27.6	✓			✓		(23)	
137	P63037	DNJA1	DnaJ homolog subfamily A member 1	0	5	0	2	0	3	**0**	**10**	N/A	1.944E-02	44.8	✓			✓		(19)(26)	
138	Q9JLM9	GRB14	Growth factor receptor-bound protein 14	0	4	0	3	0	3	**0**	**10**	N/A	5.620E-04	60.5	✓						
139	B1AXN9	B1AXN9	Ribosomal protein S6 kinase alpha-3	0	4	0	3	0	3	**0**	**10**	N/A	5.620E-04	80.6	✓						
140	A2AMY5	A2AMY5	Ubiquitin-associated protein 2	0	4	0	3	0	3	**0**	**10**	N/A	5.620E-04	118	✓			✓	✓		
141	Q9DBR1-2	XRN2	Isoform 2 of 5'-3' exoribonuclease 2	0	3	0	3	0	3	**0**	**9**	N/A	0.000E+00	108	✓			✓		(9)(23)	
142	Q9DBR0	AKAP8	A-kinase anchor protein 8	0	2	0	3	0	4	**0**	**9**	N/A	6.533E-03	76.2	✓				✓	(9)(23)	
143	Q91XI1	DUS3L	tRNA-dihydrouridine(47) synthase [NAD(P)(+)]-like	0	3	0	3	0	3	**0**	**9**	N/A	0.000E+00	71.0	✓					(9)(23)	
144	Q9R0P5	DEST	Destrin	0	4	0	3	0	2	**0**	**9**	N/A	6.533E-03	18.5	✓			✓	✓	(26)	
145	P68037	UB2L3	Ubiquitin-conjugating enzyme E2 L3	0	3	0	3	0	3	**0**	**9**	N/A	0.000E+00	17.9	✓			✓		(26)	
146	Q9CWE0	FA54B	Protein FAM54B	0	4	0	3	0	2	**0**	**9**	N/A	6.533E-03	31.7	✓			✓		(23)	
147	Q9CR86	CHSP1	Calcium-regulated heat stable protein 1	0	2	0	5	0	2	**0**	**9**	N/A	3.994E-02	16.1	✓			✓		(23)	
148	Q0VGB7	PP4R2	Serine/threonine-protein phosphatase 4 regulatory subunit 2	0	2	0	2	0	5	**0**	**9**	N/A	3.994E-02	46.4	✓					(23)	
149	Q99K51	PLST	Plastin-3	0	2	0	3	0	4	**0**	**9**	N/A	6.533E-03	70.7	✓			✓			
150	Q8K3A9	MEPCE	7SK snRNA methylphosphate capping enzyme	0	2	0	5	0	2	**0**	**9**	N/A	3.994E-02	72.0	✓						
151	Q8BIJ7	RUFY1	RUN and FYVE domain-containing protein 1	0	4	0	1	0	4	**0**	**9**	N/A	3.994E-02	80.3	✓						
152	Q6ZQK5	ACAP2	Arf-GAP with coiled-coil, ANK repeat and PH domain-containing protein 2	0	4	0	4	0	1	**0**	**9**	N/A	3.994E-02	87.2	✓			✓			
153	Q5SSZ5	TENS3	Tensin-3	0	3	0	4	0	2	**0**	**9**	N/A	6.533E-03	156	✓						
154	E9QP59	E9QP59	Inner nuclear membrane protein Man1	0	3	0	3	0	3	**0**	**9**	N/A	0.000E+00	100	✓			✓			
155	E9Q7G0	E9Q7G0	Protein Numa1	0	3	0	4	0	2	**0**	**9**	N/A	6.533E-03	236	✓			✓			
156	B7ZCP4	B7ZCP4	Copine I	0	3	0	4	0	2	**0**	**9**	N/A	6.533E-03	52.8	✓			✓			
157	A2AVJ7	A2AVJ7	Ribosome binding protein 1	0	2	0	4	0	3	**0**	**9**	N/A	6.533E-03	158	✓			✓			

				6AzGlcNAc																	
				Spectral Counts																	
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization					
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	GlcNAz	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
158	E9Q3T0	E9Q3T0	Uncharacterized protein	0	3	0	3	0	3	**0**	**9**	N/A	0.000E+00	11.4							
159	Q9D6Z1	NOP56	Nucleolar protein 56	0	3	0	3	0	2	**0**	**8**	N/A	1.324E-03	64.4	✓					(9)(23)(26)	(16)
160	Q9EP82	WDR4	tRNA (guanine-N(7)-)-methyltransferase subunit WDR4	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	45.7	✓					(9)(23)	
161	Q9CR00	PSMD9	26S proteasome non-ATPase regulatory subunit 9	0	3	0	3	0	2	**0**	**8**	N/A	1.324E-03	24.7	✓			✓		(9)(23)	
162	Q8BY71	HAT1	Histone acetyltransferase type B catalytic subunit	0	3	0	3	0	2	**0**	**8**	N/A	1.324E-03	49.2	✓					(9)(23)	
163	P43247	MSH2	DNA mismatch repair protein Msh2	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	104	✓			✓		(9)(23)	
164	A2BE28-2	LAS1L	Isoform 2 of Ribosomal biogenesis protein LAS1L	0	2	0	4	0	2	**0**	**8**	N/A	1.613E-02	87.5	✓					(9)(23)	
165	Q8VCF0	MAVS	Mitochondrial antiviral-signaling protein	0	3	0	3	0	2	**0**	**8**	N/A	1.324E-03	53.4	✓			✓	✓	(5)(9)(20)(23)	
166	Q6NZF1	ZC11A	Zinc finger CCCH domain-containing protein 11A	0	2	0	4	0	2	**0**	**8**	N/A	1.613E-02	86.4	✓					(26)	
167	Q9CYA6	ZCHC8	Zinc finger CCHC domain-containing protein 8	0	1	0	3	0	4	**0**	**8**	N/A	3.902E-02	78.0	✓			✓		(23)	
168	Q8BQ30	PPR18	Phostensin	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	65.6	✓					(23)	
169	Q6NSQ7	LTV1	Protein LTV1 homolog	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	54.0	✓			✓		(23)	
170	Q9EP97	SENP3	Sentrin-specific protease 3	0	3	0	3	0	2	**0**	**8**	N/A	1.324E-03	64.4	✓						
171	Q921Q7	RIN1	Ras and Rab interactor 1	0	1	0	3	0	4	**0**	**8**	N/A	3.902E-02	83.0	✓						
172	Q8C8U0	LIPB1	Liprin-beta-1	0	2	0	4	0	2	**0**	**8**	N/A	1.613E-02	109	✓						
173	Q3V4D5	Q3V4D5	N-acetyltransferase ARD1 homolog	0	3	0	3	0	2	**0**	**8**	N/A	1.324E-03	24.8	✓						
174	H3BKN0	H3BKN0	tRNA (cytosine(34)-C(5))-methyltransferase	0	4	0	2	0	2	**0**	**8**	N/A	1.613E-02	81.3	✓						
175	P35278	RAB5C	Ras-related protein Rab-5C	0	3	0	1	0	3	**0**	**7**	N/A	2.490E-02	23.4	✓			✓		(9)(23)(26)	
176	Q6P5E6	GGA2	ADP-ribosylation factor-binding protein GGA2	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	66.0			✓			(9)(23)	
177	Q9JKP5	MBNL1	Muscleblind-like protein 1 GN=Mbnl1 PE=1 SV=1 - [MBNL1_MOUSE	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	37.0	✓			✓	✓	(9)(23)	
178	O88622-2	PARG	Isoform 2 of Poly(ADP-ribose) glycohydrolase	0	3	0	3	0	1	**0**	**7**	N/A	2.490E-02	104	✓			✓		(9)(23)	
179	O54692	ZW10	Centromere/kinetochore protein zw10 homolog	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	88.0	✓					(9)(23)	
180	Q5PSV9	MDC1	Mediator of DNA damage checkpoint protein 1	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	185	✓			✓		(9)(14)(23)	
181	Q9WVG6-2	CARM1	Isoform 2 of Histone-arginine methyltransferase CARM1	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	63.4	✓			✓	✓	(5)(9)(19)(23)	
182	Q9WVQ5	MTNB	Probable methylthioribulose-1-phosphate dehydratase	0	3	0	3	0	1	**0**	**7**	N/A	2.490E-02	26.9	✓					(23)	
183	Q6P5D8	SMHD1	Structural maintenance of chromosomes flexible hinge domain-containing protein 1	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	226	✓			✓		(23)	
184	Q3THS6	METK2	S-adenosylmethionine synthase isoform type-2	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	43.7	✓			✓		(20)	
185	Q921K2	Q921K2	Poly (ADP-ribose) polymerase family, member 1	0	3	0	2	0	2	**0**	**7**	N/A	2.192E-03	113	✓			✓			
186	Q8VE88-2	F1142	Isoform 2 of Protein FAM114A2	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	53.3	✓			✓			
187	Q8BP48	AMPM1	Methionine aminopeptidase 1	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	43.2	✓			✓			
188	Q3TT92	Q3TT92	Dihydropyrimidinase-related protein 3	0	1	0	3	0	3	**0**	**7**	N/A	2.490E-02	61.7	✓			✓			
189	P35123	UBP4	Ubiquitin carboxyl-terminal hydrolase 4	0	1	0	3	0	3	**0**	**7**	N/A	2.490E-02	108	✓			✓			
190	F7AC41	F7AC41	Protein Pus7 (Fragment)	0	3	0	3	0	1	**0**	**7**	N/A	2.490E-02	73.3	✓						
191	A2A5R8	A2A5R8	Double-stranded RNA-binding protein Staufen homolog 1	0	3	0	3	0	1	**0**	**7**	N/A	2.490E-02	53.7	✓						
192	Q62348	TSN	Translin	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	26.2	✓			✓	✓	(9)(23)(26)	
193	Q9Z2X8	KEAP1	Kelch-like ECH-associated protein 1	0	3	0	1	0	2	**0**	**6**	N/A	2.572E-02	69.5	✓					(9)(23)	
194	Q9Z1Z0-2	USO1	Isoform 2 of General vesicular transport factor p115	0	2	0	3	0	1	**0**	**6**	N/A	2.572E-02	100	✓			✓		(9)(23)	
195	Q9JJY4	DDX20	Probable ATP-dependent RNA helicase DDX20	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	91.7	✓					(9)(23)	
196	Q8K1R7	NEK9	Serine/threonine-protein kinase Nek9	0	2	0	3	0	1	**0**	**6**	N/A	2.572E-02	107	✓			✓		(9)(23)	
197	Q8BIW1	PRUNE	Protein prune homolog	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	50.2	✓					(9)(23)	
198	P61290	PSME3	Proteasome activator complex subunit 3	0	3	0	1	0	2	**0**	**6**	N/A	2.572E-02	29.5	✓					(9)(23)	
199	P42669	PURA	Transcriptional activator protein Pur-alpha	0	3	0	2	0	1	**0**	**6**	N/A	2.572E-02	34.9	✓			✓		(9)(20)(23)	

				6AzGlcNAc																
				Spectral Counts																
				Experiment 1		Experiment 2		Experiment 3		Sum					Localization					
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	GlcNAz	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
200	Q76MZ3	2AAA	Serine/threonine-protein phosphatase 2A 65 kDa regulatory subunit A alpha isoform	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	65.3	✓			✓		(4)(14)	
201	Q64337	SQSTM	Sequestosome-1	0	3	0	2	0	1	**0**	**6**	N/A	2.572E-02	48.1	✓			✓		(23)	
202	Q8BFS6-2	CPPED	Isoform 2 of Calcineurin-like phosphoesterase domain-containing protein 1	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	33.4	✓					(23)	
203	Q80XI4	PI42B	Phosphatidylinositol 5-phosphate 4-kinase type-2 beta	0	1	0	3	0	2	**0**	**6**	N/A	2.572E-02	47.3	✓					(23)	
204	Q80WT5-2	AFTIN	Isoform 2 of Aftiphilin	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	98.4	✓					(23)	
205	Q8BQM4	HEAT3	HEAT repeat-containing protein 3	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	74.3				✓		(23)	
206	P34022	RANG	Ran-specific GTPase-activating protein	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	23.6	✓					(19)(23)(26)	
207	Q9CZP7-2	CD37L	Isoform 2 of Hsp90 co-chaperone Cdc37-like 1	0	3	0	2	0	1	**0**	**6**	N/A	2.572E-02	35.4	✓						
208	Q8R409	HEXI1	Protein HEXIM1	0	2	0	3	0	1	**0**	**6**	N/A	2.572E-02	40.2	✓						
209	Q8K0C9	GMDS	GDP-mannose 4,6 dehydratase	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	42.0	✓			✓			
210	Q60848-2	HELLS	Isoform 2 of Lymphocyte-specific helicase	0	3	0	2	0	1	**0**	**6**	N/A	2.572E-02	93.7	✓						
211	P33174	KIF4	Chromosome-associated kinesin KIF4	0	3	0	1	0	2	**0**	**6**	N/A	2.572E-02	139	✓						
212	G3UW40	G3UW40	MCG4620, isoform CRA_b	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	92.8	✓			✓			
213	E9Q7L0	E9Q7L0	Protein Ogdhl	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	117	✓						
214	D3YX62	D3YX62	Heme oxygenase 2 (Fragment)	0	1	0	3	0	2	**0**	**6**	N/A	2.572E-02	26.4	✓						
215	B7ZCL8	B7ZCL8	55 kDa erythrocyte membrane protein	0	3	0	1	0	2	**0**	**6**	N/A	2.572E-02	49.8				✓			
216	Q8BKC5	IPO5	Importin-5	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	124	✓				✓	(9)(23)	(17)
217	Q9JIH2	NUP50	Nuclear pore complex protein Nup50	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	49.5	✓			✓		(9)(23)	
218	Q8C4J7	TBL3	Transducin beta-like protein 3	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	88.2	✓					(9)(23)	
219	Q8BFY6	PEF1	Peflin	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	29.2	✓					(9)(23)	
220	Q7TNV0	DEK	Protein DEK	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	43.1	✓			✓		(9)(23)	
221	Q91VE6-2	MK67I	Isoform 2 of MKI67 FHA domain-interacting nucleolar phosphoprotein	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	30.6	✓					(23)	
222	O89032-3	SPD2A	Isoform 3 of SH3 and PX domain-containing protein 2A	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	119	✓				✓		
223	O55137	ACOT1	Acyl-coenzyme A thioesterase 1	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	46.1	✓			✓			
224	G3X8Q0	G3X8Q0	Trans-acting transcription factor 1	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	80.4	✓			✓	✓		
225	E9Q310	E9Q310	Glucocorticoid receptor (Fragment)	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	52.3	✓						
226	D3Z2M0	D3Z2M0	Cytoplasmic tRNA 2-thiolation protein 2 (Fragment)	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	27.3	✓						
227	F8VQ29	F8VQ29	Protein Iqgap3	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	185							
228	Q61687	ATRX	Transcriptional regulator ATRX	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	278	✓					(9)(23)(26)	
229	Q9WTX5	SKP1	S-phase kinase-associated protein 1	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	18.7	✓			✓		(9)(23)	
230	Q9D5T0	ATAD1	ATPase family AAA domain-containing protein 1	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	40.7	✓			✓		(9)(23)	
231	Q8VCH8	UBXN4	UBX domain-containing protein 4	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	56.4	✓					(9)(23)	
232	Q8CG48	SMC2	Structural maintenance of chromosomes protein 2	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	134	✓					(9)(23)	
233	P15307	REL	Proto-oncogene c-Rel	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	64.9	✓			✓	✓	(9)(23)	
234	Q9D8S9	BOLA1	BolA-like protein 1	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	14.4						(9)(23)	
235	A2AAW9	A2AAW9	Eukaryotic translation initiation factor 2 subunit 3, X-linked	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	37.2	✓			✓		(26)	
236	Q9JJV2-3	PROF2	Isoform 3 of Profilin-2	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	9.8	✓					(23)	
237	Q8BI72	CARF	CDKN2A-interacting protein	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	59.7	✓			✓		(23)	
238	Q03963	E2AK2	Interferon-induced, double-stranded RNA-activated protein kinase	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	58.2	✓			✓		(23)	
239	P00493	HPRT	Hypoxanthine-guanine phosphoribosyltransferase	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	24.6	✓			✓		(19)	
240	Q62419	SH3G1	Endophilin-A2	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	41.5	✓					(1)(20)	
241	Q9JLJ5	ELOV1	Elongation of very long chain fatty acids protein 1	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	32.7			✓	✓	✓		

				6AzGlcNAc																
				Spectral Counts												Localization				
				Experiment 1		Experiment 2		Experiment 3		Sum										
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	GlcNAz	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
242	J3KMM5	J3KMM5	Sarcoplasmic/endoplasmic reticulum calcium ATPase 2	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	110			✓				
243	E9Q9C5	E9Q9C5	V-type proton ATPase 16 kDa proteolipid subunit (Fragment)	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	15.3			✓	✓			
244	Q9R0X4	ACOT9	Acyl-coenzyme A thioesterase 9, mitochondrial	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	50.5	✓			✓			
245	Q9CR51	VATG1	V-type proton ATPase subunit G 1	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	13.7	✓			✓			
246	Q91WG2-2	RABE2	Isoform 3 of Rab GTPase-binding effector protein 2	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	54.3	✓						
247	Q60760-3	GRB10	Isoform 3 of Growth factor receptor-bound protein 10	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	61.2	✓						
248	P35550	FBRL	rRNA 2'-O-methyltransferase fibrillarin	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	34.3	✓						
249	O70325-2	GPX41	Isoform Cytoplasmic of Phospholipid hydroperoxide glutathione peroxidase, mitochondr	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	19.5	✓						
250	O70305-2	ATX2	Isoform 2 of Ataxin-2	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	129	✓			✓	✓		
251	E9Q242	E9Q242	Adenylosuccinate lyase	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	53.1	✓			✓			
252	Q64514-2	TPP2	Isoform Short of Tripeptidyl-peptidase 2	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	138	✓			✓		(9)(23)	
253	Q3UHX0	NOL8	Nucleolar protein 8	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	129	✓			✓		(9)(23)	
254	Q3U5F4	YRDC	YrdC domain-containing protein, mitochondrial	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	29.4	✓					(9)(23)	
255	P47856-2	GFPT1	Isoform 2 of Glutamine--fructose-6-phosphate aminotransferase [isomerizing] 1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	76.7	✓					(9)(23)	
256	Q69Z38	PEAK1	Pseudopodium-enriched atypical kinase 1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	191	✓			✓		(9)(20)(23)	
257	Q99LS3	SERB	Phosphoserine phosphatase	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	25.1	✓			✓		(26)	
258	Q80YR4-2	ZN598	Isoform 2 of Zinc finger protein 598	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	96.3	✓			✓		(23)	
259	P59708	PM14	Pre-mRNA branch site protein p14	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	14.6	✓					(23)	
260	G3X972	G3X972	Protein Sec24c	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	119	✓			✓	✓	(2)	
261	G3X928	G3X928	SEC23-interacting protein	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	111	✓			✓	✓	(2)	
262	Q3TJZ6	FA98A	Protein FAM98A	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	55.0						(19)	
263	Q9DBR7	MYPT1	Protein phosphatase 1 regulatory subunit 12A	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	115	✓			✓	✓	(1)(5)(19)(20)(26)	
264	Q9CRD0-3	OCAD1	Isoform 3 of OCIA domain-containing protein 1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	20.8	✓						
265	Q99NB8	UBQL4	Ubiquilin-4	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	63.5	✓			✓	✓		
266	Q91YS8	KCC1A	Calcium/calmodulin-dependent protein kinase type 1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	41.6	✓			✓			
267	Q8K124	PKHO2	Pleckstrin homology domain-containing family O member 2	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	53.8	✓						
268	Q8C0V0	TLK1	Serine/threonine-protein kinase tousled-like 1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	86.6	✓						
269	Q8BIW9	CTF18	Chromosome transmission fidelity protein 18 homolog	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	108	✓						
270	Q62074	KPCI	Protein kinase C iota type	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	68.2	✓						
271	Q3V3Y9	Q3V3Y9	Kinesin-like protein KIF1C	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	47.1	✓						
272	Q3TZX8-3	NOL9	Isoform 3 of Polynucleotide 5'-hydroxyl-kinase NOL9	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	70.9	✓			✓			
273	Q3TFP0	Q3TFP0	FUS interacting protein (Serine-arginine rich) 1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	22.1	✓						
274	P70445	4EBP2	Eukaryotic translation initiation factor 4E-binding protein 2	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	12.9	✓				✓		
275	P63166	SUMO1	Small ubiquitin-related modifier 1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	11.5	✓						
276	P31938	MP2K1	Dual specificity mitogen-activated protein kinase kinase 1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	43.4	✓						
277	O09110-2	MP2K3	Isoform 1 of Dual specificity mitogen-activated protein kinase kinase 3	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	35.8	✓						
278	J3QP68	J3QP68	Uncharacterized protein	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	41.1	✓						
279	J3JS94	J3JS94	L antigen family member 3	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	11.6	✓			✓			
280	H3BKK2	H3BKK2	Protein D2Ertd750e (Fragment)	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	20.6	✓						
281	G3UZ44	G3UZ44	Paired mesoderm homeobox protein 1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	22.5	✓						
282	E9Q986	E9Q986	Catenin delta-1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	92.4	✓						
283	E9Q7M2	E9Q7M2	Protein Tsc22d2	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	78.1	✓				✓		

				6AzGlcNAc Spectral Counts											Localization						
				Experiment 1		Experiment 2		Experiment 3		Sum											
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	GlcNAz	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
284	E9Q5L7	E9Q5L7	PHD finger protein 10	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	26.9	✓			✓			
285	D3Z4W3	D3Z4W3	Proline-rich AKT1 substrate 1	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	9.7	✓						
286	D3YVJ7	D3YVJ7	Protein Akr1b3 (Fragment)	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	19.6	✓						
287	D3YUC9	D3YUC9	Methionine-R-sulfoxide reductase B3, mitochondrial	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	12.1	✓			✓			
288	A2AG83	A2AG83	26S proteasome non-ATPase regulatory subunit 10	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	16.2	✓			✓			
289	A2A4Z1	A2A4Z1	Ubiquitin-conjugating enzyme E2 C	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	18.5	✓						
290	O54931-2	AKAP2	Isoform 2 of A-kinase anchor protein 2	0	23	1	26	0	26	**1**	**75**	75.00	1.977E-05	97.1	✓			✓	✓	(9)(23)(26)	
291	P07742	RIR1	Ribonucleoside-diphosphate reductase large subunit	0	17	1	21	0	20	**1**	**58**	58.00	1.083E-04	90.2	✓			✓		(14)(23)(26)	
292	Q61033	LAP2A	Lamina-associated polypeptide 2, isoforms alpha/zeta	1	20	0	19	0	12	**1**	**51**	51.00	2.785E-03	75.1	✓			✓	✓	(23)(26)	
293	P80314	TCPB	T-complex protein 1 subunit beta	1	16	0	16	0	18	**1**	**50**	50.00	2.566E-05	57.4	✓			✓		(5)(26)	
294	Q6DFW4	NOP58	Nucleolar protein 58	1	17	0	14	0	17	**1**	**48**	48.00	1.193E-04	60.3	✓			✓	✓	(9)(23)(26)	
295	P60335	PCBP1	Poly(rC)-binding protein 1	0	14	1	16	0	17	**1**	**47**	47.00	8.364E-05	37.5	✓			✓	✓	(9)(14)(23)(26)	
296	Q60854	SPB6	Serpin B6	0	13	1	20	0	13	**1**	**46**	46.00	3.126E-03	42.6	✓			✓		(26)	
297	Q80X90	FLNB	Filamin-B	0	14	1	11	0	15	**1**	**40**	40.00	4.786E-04	278	✓			✓		(9)(23)(26)	
298	Q61990	PCBP2	Poly(rC)-binding protein 2	0	9	1	14	0	13	**1**	**36**	36.00	1.724E-03	38.2	✓			✓	✓	(5)(14)(26)	(17)
299	Q8BFW7	LPP	Lipoma-preferred partner homolog	0	13	1	13	0	10	**1**	**36**	36.00	3.790E-04	65.8	✓			✓	✓	(9)(20)(23)(26)	(16)
300	Q62167	DDX3X	ATP-dependent RNA helicase DDX3X	0	13	1	13	0	10	**1**	**36**	36.00	3.790E-04	73.1	✓			✓		(9)(23)(26)	
301	Q9D0E1-2	HNRPM	Isoform 2 of Heterogeneous nuclear ribonucleoprotein M	1	25	1	25	0	20	**2**	**70**	35.00	1.828E-04	73.7	✓			✓		(23)	
302	Q60598	SRC8	Src substrate cortactin	0	10	1	10	0	13	**1**	**33**	33.00	5.368E-04	61.2	✓			✓		(20)(26)	
303	Q61074	PPM1G	Protein phosphatase 1G	0	11	1	7	0	10	**1**	**28**	28.00	1.956E-03	58.7	✓					(9)(23)	
304	O08553	DPYL2	Dihydropyrimidinase-related protein 2	0	9	1	6	0	12	**1**	**27**	27.00	7.966E-03	62.2	✓					(1)(20)	
305	A2AFJ1	A2AFJ1	Histone-binding protein RBBP7	0	10	1	7	0	9	**1**	**26**	26.00	9.045E-04	46.9	✓			✓		(26)	
306	P70698	PYRG1	CTP synthase 1	1	9	0	9	0	8	**1**	**26**	26.00	6.015E-05	66.6	✓			✓		(23)(26)	
307	E9PVC5	E9PVC5	Eukaryotic translation initiation factor 4 gamma 1	0	6	1	10	0	10	**1**	**26**	26.00	3.736E-03	175	✓			✓	✓	(12)	
308	Q8CGC7	SYEP	Bifunctional glutamate/proline--tRNA ligase	1	16	1	13	0	14	**2**	**43**	21.50	1.317E-04	170	✓					(14)(19)(23)(26)	
309	Q61699-2	HS105	Isoform HSP105-beta of Heat shock protein 105 kDa	0	20	3	21	0	20	**3**	**61**	20.33	5.199E-05	91.6	✓			✓		(5)(23)	
310	Q91VI7	RINI	Ribonuclease inhibitor	0	8	1	6	0	6	**1**	**20**	20.00	1.052E-03	49.8	✓			✓		(23)	
311	Q9CQX2	CYB5B	Cytochrome b5 type B	1	5	0	9	0	5	**1**	**19**	19.00	1.201E-02	16.3	✓			✓		(26)	
312	D3Z5M2	D3Z5M2	Protein Gm10110	0	14	2	12	0	9	**2**	**35**	17.50	2.337E-03	67.7	✓			✓			
313	Q8CI51	PDLI5	PDZ and LIM domain protein 5	0	11	2	10	0	13	**2**	**34**	17.00	6.454E-04	63.3	✓			✓	✓	(1)(23)(26)	
314	Q99K70	RRAGC	Ras-related GTP-binding protein C	0	7	1	5	0	5	**1**	**17**	17.00	2.019E-03	44.1	✓			✓		(9)(23)	
315	P16045	LEG1	Galectin-1	1	35	2	35	3	29	**6**	**99**	16.50	1.184E-04	14.9			✓	✓		(23)	(17)
316	Q8BGJ5	Q8BGJ5	MCG13402, isoform CRA_a	0	14	1	13	2	22	**3**	**49**	16.33	6.185E-03	56.9	✓			✓		(26)	
317	Q3U0V1	FUBP2	Far upstream element-binding protein 2	1	26	2	29	2	25	**5**	**80**	16.00	3.656E-05	76.7	✓			✓		(14)(23)(26)	
318	P06151	LDHA	L-lactate dehydrogenase A chain	1	17	1	13	1	15	**3**	**45**	15.00	2.655E-04	36.5	✓			✓	✓	(6)(9)(23)(24)(26)	(17)
319	Q8R3C0	MCMBP	Mini-chromosome maintenance complex-binding protein	0	5	1	7	0	3	**1**	**15**	15.00	1.780E-02	72.8	✓					(9)(23)	
320	Q61029-3	LAP2B	Isoform Epsilon of Lamina-associated polypeptide 2, isoforms beta/delta/epsilon/gamma	1	10	1	11	0	7	**2**	**28**	14.00	2.253E-03	46.0	✓			✓	✓	(26)	
321	Q9JIF0-3	ANM1	Isoform 3 of Protein arginine N-methyltransferase 1	0	15	2	14	1	12	**3**	**41**	13.67	2.749E-04	39.6	✓			✓		(26)	(17)
322	Q6IRU2	TPM4	Tropomyosin alpha-4 chain	1	13	1	15	1	12	**3**	**40**	13.33	1.517E-04	28.5	✓			✓		(9)(23)(26)	
323	P25206	MCM3	DNA replication licensing factor MCM3	0	6	1	4	0	3	**1**	**13**	13.00	1.324E-02	91.5	✓			✓		(9)(23)	
324	Q91V92	ACLY	ATP-citrate synthase	1	2	0	5	0	5	**1**	**12**	12.00	2.539E-02	120	✓			✓		(9)(14)(23)(26)	(17)
325	Q501J6	DDX17	Probable ATP-dependent RNA helicase DDX17	0	3	0	3	1	5	**1**	**11**	11.00	1.106E-02	72.4	✓			✓	✓	(5)(9)(23)(26)	

				6AzGlcNAc																
				Spectral Counts																
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization				
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	GlcNAz	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
326	Q9WUM4	COR1C	Coronin-1C	0	6	2	5	0	9	**2**	**20**	10.00	1.201E-02	53.1	✓			✓		(14)(26)	
327	Q8VDM4	PSMD2	26S proteasome non-ATPase regulatory subunit 2	0	11	3	9	0	9	**3**	**29**	9.67	1.961E-03	100	✓			✓		(9)(19)(23)	
328	Q8BGD9	IF4B	Eukaryotic translation initiation factor 4B	2	15	2	17	1	13	**5**	**45**	9.00	3.755E-04	68.8	✓			✓		(26)	
329	P63242	IF5A1	Eukaryotic translation initiation factor 5A-1	1	8	1	6	0	4	**2**	**18**	9.00	1.135E-02	16.8	✓					(14)(23)(26)	(17)
330	Q9WVA4	TAGL2	Transgelin-2	0	6	2	7	0	5	**2**	**18**	9.00	3.772E-03	22.4	✓			✓		(23)(26)	
331	P30681	HMGB2	High mobility group protein B2	1	3	0	4	0	2	**1**	**9**	9.00	1.613E-02	24.1	✓					(9)(23)(26)	
332	P14733	LMNB1	Lamin-B1	0	4	1	3	0	2	**1**	**9**	9.00	1.613E-02	66.7	✓			✓	✓	(9)(23)	
333	Q11011	PSA	Puromycin-sensitive aminopeptidase	0	4	1	3	0	2	**1**	**9**	9.00	1.613E-02	103	✓			✓		(5)(23)	
334	Q921F2	TADBP	TAR DNA-binding protein 43	0	3	1	3	0	3	**1**	**9**	9.00	1.324E-03	44.5	✓			✓		(14)(26)	
335	A1BN54	A1BN54	Alpha actinin 1a	0	21	3	23	4	17	**7**	**61**	8.71	1.083E-03	103	✓			✓		(26)	
336	Q791V5	MTCH2	Mitochondrial carrier homolog 2	1	4	1	6	0	6	**2**	**16**	8.00	3.320E-03	33.5	✓			✓		(9)(23)	
337	Q9CPP0	NPM3	Nucleoplasmin-3	0	2	1	3	0	3	**1**	**8**	8.00	7.763E-03	19.0	✓					(9)(19)(23)(26)	
338	H7BWX9	H7BWX9	Small ubiquitin-related modifier 2	0	3	1	3	0	2	**1**	**8**	8.00	7.763E-03	6.0	✓						
339	Q62523	ZYX	Zyxin	0	4	2	5	0	4	**2**	**13**	6.50	7.933E-03	60.5	✓			✓	✓	(1)(9)(23)(26)	
340	P61979-3	HNRPK	Isoform 3 of Heterogeneous nuclear ribonucleoprotein K	5	21	3	16	1	17	**9**	**54**	6.00	1.434E-03	48.5	✓			✓		(5)(8)(14)(23)(24)(26)	
341	G3UX26	G3UX26	Voltage-dependent anion-selective channel protein 2 (Fragment)	5	23	3	20	4	26	**12**	**69**	5.75	4.815E-04	30.4	✓			✓			
342	Q8BGQ7	SYAC	Alanine--tRNA ligase, cytoplasmic	1	5	1	8	1	4	**3**	**17**	5.67	1.780E-02	107	✓			✓		(23)(26)	(17)
343	P17751	TPIS	Triosephosphate isomerase	2	12	3	9	1	11	**6**	**32**	5.33	1.193E-03	32.2	✓			✓		(5)(19)(23)(26)	(17)
344	Q9CQ65	MTAP	S-methyl-5'-thioadenosine phosphorylase	2	11	3	14	3	16	**8**	**41**	5.13	1.798E-03	31.0	✓			✓		(9)(23)(26)	(17)
345	Q8VHX6-2	FLNC	Isoform 2 of Filamin-C	0	2	1	1	0	2	**1**	**5**	5.00	4.742E-02	287	✓					(9)(23)	
346	Q9CZY3	UB2V1	Ubiquitin-conjugating enzyme E2 variant 1	0	2	0	2	1	1	**1**	**5**	5.00	4.742E-02	16.3	✓					(23)	
347	P07356	ANXA2	Annexin A2	3	23	7	25	5	24	**15**	**72**	4.80	1.240E-04	38.7	✓			✓		(8)(9)(23)(26)	(17)
348	P68254-2	1433T	Isoform 2 of 14-3-3 protein theta	1	9	1	10	3	5	**5**	**24**	4.80	1.910E-02	27.7	✓			✓	✓	(5)(8)(23)(26)	(17)
349	Q61024	ASNS	Asparagine synthetase [glutamine-hydrolyzing]	0	8	3	11	4	14	**7**	**33**	4.71	1.472E-02	64.2	✓			✓		(9)(23)(26)	
350	Q02053	UBA1	Ubiquitin-like modifier-activating enzyme 1	0	7	4	9	2	12	**6**	**28**	4.67	1.680E-02	118	✓					(5)(9)(14)(23)	
351	P18760	COF1	Cofilin-1	3	9	2	10	1	9	**6**	**28**	4.67	3.882E-04	18.5	✓			✓	✓	(14)(19)(23)(26)	
352	P46935	NEDD4	E3 ubiquitin-protein ligase NEDD4	8	33	10	44	8	43	**26**	**120**	4.62	9.338E-04	103	✓			✓		(1)(20)(26)	
353	Q60749	KHDR1	KH domain-containing, RNA-binding, signal transduction-associated protein 1	1	3	1	4	1	6	**3**	**13**	4.33	1.944E-02	48.3	✓			✓		(14)(26)	
354	J3QPE8	J3QPE8	MCG16555	4	9	1	10	2	10	**7**	**29**	4.14	1.473E-03	30.7	✓			✓	✓		
355	A2AL12	A2AL12	Heterogeneous nuclear ribonucleoprotein A3	4	13	3	13	3	14	**10**	**40**	4.00	2.920E-05	34.5	✓			✓		(5)(26)	
356	Q7TPV4	MBB1A	Myb-binding protein 1A	4	12	5	8	0	14	**9**	**34**	3.78	2.335E-02	152	✓					(26)	
357	Q9Z2X1	HNRPF	Heterogeneous nuclear ribonucleoprotein F	5	21	7	25	6	21	**18**	**67**	3.72	3.567E-04	45.7	✓					(23)(26)	(17)
358	P58252	EF2	Elongation factor 2	7	20	4	23	7	20	**18**	**63**	3.50	4.472E-04	95.3	✓			✓		(5)(8)(14)(23)(26)	(17)
359	E9PVM7	E9PVM7	Glutathione S-transferase Mu 5 (Fragment)	1	3	1	2	0	2	**2**	**7**	3.50	2.411E-02	25.5	✓						
360	B7FAU9	B7FAU9	Filamin, alpha	2	19	8	16	5	17	**15**	**52**	3.47	3.159E-03	280	✓			✓		(26)	
361	P16858	G3P	Glyceraldehyde-3-phosphate dehydrogenase	20	64	21	67	20	67	**61**	**198**	3.25	1.697E-06	35.8	✓			✓		(1)(2)(4)(6)(8)(23)(24)(26)	
362	E9Q7H5	E9Q7H5	Uncharacterized protein	5	11	3	11	3	13	**11**	**35**	3.18	1.058E-03	32.6				✓		(5)	
363	P57780	ACTN4	Alpha-actinin-4	0	8	2	10	6	7	**8**	**25**	3.13	4.531E-02	105	✓					(9)(23)	(17)
364	P10107	ANXA1	Annexin A1	5	16	5	19	6	14	**16**	**49**	3.06	1.798E-03	38.7	✓			✓		(26)	(17)
365	E9Q070	E9Q070	Uncharacterized protein	1	3	1	4	1	2	**3**	**9**	3.00	2.572E-02	34.2	✓						
366	Q8C1B7-3	SEP11	Isoform 3 of Septin-11	0	2	1	2	1	2	**2**	**6**	3.00	1.613E-02	48.9	✓						

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Supplementary Table 2. Proteins identified using GlcNAz enrichment. NIH 3T3 were treated in triplicate with either Ac_4GlcNAz (200 μM, +) or Ac_4GlcNAc (200 μM, -) for 16 hours. At this time the cell lysates were subjected to CuAAC with alkyne-biotin, followed by enrichment with streptavidin beads and on-bead trypsinolysis. Labeled proteins were selected as those that were represented by at least 1 unique-peptide in each Ac_4GlcNAz treated sample, a total of at least 3 spectral-counts from the same three samples, and at least a total of 3 times more spectral counts in the Ac_4GlcNAz treated samples compared to Ac_4GlcNAc. Blue indicates proteins previously identified in O-GlcNAc proteomic studies, purple indicates proteins identified in both O-GlcNAc and O-linked mucin proteomic studies and red indicates proteins identified in only O-linked mucin proteomic studies. Novel proteins that were identified in this study are indicated in white.

				GlcNAz Spectral Counts												Localization						
				Experiment 1		Experiment 2		Experiment 3		Sum												
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
1	P27546-2	MAP4	Isoform 2 of Microtubule-associated protein 4	0	35	0	31	0	35	**0**	**101**	N/A	1.461E-05	117	✓			✓	✓	(19)(23)(26)	
2	Q80X50-5	UBP2L	Isoform 5 of Ubiquitin-associated protein 2-like	0	28	0	26	0	30	**0**	**84**	N/A	1.716E-05	117	✓				✓	(5)(9)(19)(23)(26)	
3	Q80X50-2	UBP2L	Isoform 2 of Ubiquitin-associated protein 2-like	0	27	0	25	0	29	**0**	**81**	N/A	1.983E-05	107	✓				✓	(5)(9)(19)(23)(26)	
4	P30416	FKBP4	Peptidyl-prolyl cis-trans isomerase FKBP4	0	21	0	21	0	18	**0**	**60**	N/A	3.688E-05	51.5	✓			✓		(5)(23)(26)	
5	Q61191	HCFC1	Host cell factor 1	0	17	0	18	0	25	**0**	**60**	N/A	1.358E-03	210	✓			✓	✓	(1)(2)(13)(19)(20)(21)(22)(23)(24)(26)	
6	Q3THK7	GUAA	GMP synthase [glutamine-hydrolyzing]	0	20	0	16	0	19	**0**	**55**	N/A	1.077E-04	76.7	✓			✓		(26)	
7	Q8VCQ8	Q8VCQ8	Caldesmon 1	0	15	0	17	0	17	**0**	**49**	N/A	1.647E-05	60.4	✓			✓	✓	(26)	
8	P40124	CAP1	Adenylyl cyclase-associated protein 1	0	17	0	15	0	15	**0**	**47**	N/A	1.944E-05	51.5			✓	✓	✓	(23)(26)	
9	Q9QUR6	PPCE	Prolyl endopeptidase	0	14	0	12	0	20	**0**	**46**	N/A	3.098E-03	80.7	✓			✓		(26)	(17)
10	Q3UZ39	LRRF1	Leucine-rich repeat flightless-interacting protein 1	0	14	0	14	0	18	**0**	**46**	N/A	3.264E-04	79.2	✓			✓		(23)(26)	
11	Q3TLH4-5	PRC2C	Isoform 5 of Protein PRRC2C	0	18	0	17	0	11	**0**	**46**	N/A	2.175E-03	302	✓				✓	(19)(23)(26)	
12	Q61584-5	FXR1	Isoform D of Fragile X mental retardation syndrome-related protein 1	0	14	0	13	0	18	**0**	**45**	N/A	6.030E-04	69.7	✓			✓			
13	Q9ERG0	LIMA1	LIM domain and actin-binding protein 1	0	15	0	15	0	14	**0**	**44**	N/A	1.595E-06	84.0	✓			✓		(9)(23)(26)	
14	Q63850	NUP62	Nuclear pore glycoprotein p62	0	13	0	16	0	14	**0**	**43**	N/A	8.387E-05	53.2	✓				✓	(2)(19)(23)(26)	(17)
15	G3X928	G3X928	SEC23-interacting protein	0	13	0	15	0	12	**0**	**40**	N/A	1.116E-04	111	✓			✓	✓	(2)(9)	
16	O88532	ZFR	Zinc finger RNA-binding protein	0	13	0	11	0	15	**0**	**39**	N/A	3.546E-04	117	✓				✓	(1)(5)(12)(13)(19)(20)(26)	
17	Q99PG2	OGFR	Opioid growth factor receptor	0	11	0	18	0	10	**0**	**39**	N/A	6.672E-03	70.6	✓			✓			
18	Q8K4Z5	SF3A1	Splicing factor 3A subunit 1	0	13	0	12	0	13	**0**	**38**	N/A	2.864E-06	88.5	✓				✓	(23)(26)	(17)
19	Q9DCL9	PUR6	Multifunctional protein ADE2	0	14	0	10	0	14	**0**	**38**	N/A	6.852E-04	47.0	✓			✓		(18)(19)(23)(26)	
20	Q9Z110-2	P5CS	Isoform Short of Delta-1-pyrroline-5-carboxylate synthase	0	8	0	12	0	13	**0**	**33**	N/A	1.971E-03	87.0	✓			✓		(9)(23)(26)	
21	A2AMY5	A2AMY5	Ubiquitin-associated protein 2	0	12	0	13	0	8	**0**	**33**	N/A	1.971E-03	118	✓			✓	✓		
22	B1AU75	B1AU75	Nuclear autoantigenic sperm protein	0	7	0	15	0	10	**0**	**32**	N/A	1.025E-02	84.0	✓			✓		(26)	
23	Q3TW96	UAP1L	UDP-N-acetylhexosamine pyrophosphorylase-like protein 1	0	11	0	10	0	10	**0**	**31**	N/A	6.452E-06	56.6	✓			✓	✓	(9)	
24	Q9Z1F9	SAE2	SUMO-activating enzyme subunit 2	0	8	0	11	0	12	**0**	**31**	N/A	1.006E-03	70.5	✓			✓	✓	(26)	
25	Q9QZM0	UBQL2	Ubiquilin-2	0	9	0	10	0	12	**0**	**31**	N/A	3.035E-04	67.3	✓				✓		
26	Q9CZD3	SYG	Glycine--tRNA ligase GN=Gars PE=1 SV=1 - [SYG_MOUSE]	0	10	0	9	0	11	**0**	**30**	N/A	6.521E-05	81.8	✓			✓	✓	(9)(14)(23)(26)	
27	Q6XLQ8	Q6XLQ8	Calumenin GN=Calu PE=2 SV=1 - [Q6XLQ8_MOUSE]	0	9	0	8	0	13	**0**	**30**	N/A	2.814E-03	37.1		✓			✓	(9)	
28	O70318	E41L2	Band 4.1-like protein 2 GN=Epb41l2 PE=1 SV=2 - [E41L2_MOUSE]	0	9	0	13	0	8	**0**	**30**	N/A	2.814E-03	110	✓			✓	✓	(20)(23)	
29	P58871	TB182	182 kDa tankyrase-1-binding protein GN=Tnks1bp1 PE=1 SV=2 - [TB182_MOUSE]	0	8	0	10	0	12	**0**	**30**	N/A	9.781E-04	182	✓			✓	✓	(1)(20)(23)(26)	

				GlcNAz																
				Spectral Counts																
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization					
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
30	O35887	CALU	Calumenin GN=Calu PE=1 SV=1 - [CALU_MOUSE]	0	10	0	8	0	11	**0**	**29**	N/A	3.936E-04	37.0		✓			✓	(23)	(16)(17)
31	Q9DBR7	MYPT1	Protein phosphatase 1 regulatory subunit 12A GN=Ppp1r12a PE=1 SV=2 - [MYPT1_MOUSE]	0	9	0	13	0	7	**0**	**29**	N/A	5.397E-03	115	✓			✓	✓	(1)(5)(9)(19)(20)(26)	
32	Q5SUT0	Q5SUT0	Ewing sarcoma breakpoint region 1 GN=Ewsr1 PE=2 SV=1 - [Q5SUT0_MOUSE]	0	8	0	11	0	9	**0**	**28**	N/A	4.511E-04	64.9	✓				✓	(9)(26)	
33	Q3UMF0-4	COBL1	Isoform 4 of Cordon-bleu protein-like 1 GN=Cobll1 - [COBL1_MOUSE]	0	8	0	10	0	10	**0**	**28**	N/A	1.510E-04	130	✓			✓	✓		
34	A2A6U3	A2A6U3	Septin 9 GN=Sept9 PE=3 SV=1 - [A2A6U3_MOUSE]	0	8	0	8	0	11	**0**	**27**	N/A	8.438E-04	63.7	✓			✓		(26)	
35	Q80ZX0	Q80ZX0	Protein Sec24b GN=Sec24b PE=2 SV=1 - [Q80ZX0_MOUSE]	0	10	0	9	0	8	**0**	**27**	N/A	9.888E-05	136	✓				✓	(2)	
36	G3X972	G3X972	Protein Sec24c GN=Sec24c PE=4 SV=1 - [G3X972_MOUSE]	0	7	0	11	0	9	**0**	**27**	N/A	1.462E-03	119	✓			✓	✓	(2)	
37	Q8CGF7	TCRG1	Transcription elongation regulator 1 GN=Tcerg1 PE=1 SV=2 - [TCRG1_MOUSE]	0	9	0	9	0	9	**0**	**27**	N/A	0.000E+00	124	✓				✓	(19)(23)	
38	Q9CT10	RANB3	Ran-binding protein 3 GN=Ranbp3 PE=1 SV=2 - [RANB3_MOUSE]	0	9	0	9	0	9	**0**	**27**	N/A	0.000E+00	52.5	✓			✓			
39	Q3UMF0-3	COBL1	Isoform 3 of Cordon-bleu protein-like 1 GN=Cobll1 - [COBL1_MOUSE]	0	8	0	9	0	10	**0**	**27**	N/A	9.888E-05	129	✓			✓	✓		
40	E9Q4Q2	E9Q4Q2	Splicing factor 1 GN=Sf1 PE=4 SV=1 - [E9Q4Q2_MOUSE]	0	10	0	7	0	10	**0**	**27**	N/A	8.438E-04	59.7	✓				✓		
41	Q00519	XDH	Xanthine dehydrogenase/oxidase GN=Xdh PE=1 SV=5 - [XDH_MOUSE]	0	12	0	4	0	10	**0**	**26**	N/A	2.265E-02	147			✓	✓		(9)(26)	
42	Q60865	CAPR1	Caprin-1 GN=Caprin1 PE=1 SV=2 - [CAPR1_MOUSE]	0	8	0	8	0	10	**0**	**26**	N/A	2.020E-04	78.1	✓			✓	✓	(19)(23)(26)	
43	E9Q3G8	E9Q3G8	Protein Nup153 GN=Nup153 PE=4 SV=1 - [E9Q3G8_MOUSE]	0	8	0	8	0	9	**0**	**25**	N/A	1.520E-05	152	✓				✓	(2)(12)(20)	
44	Q7TQH0-2	ATX2L	Isoform 2 of Ataxin-2-like protein GN=Atxn2l - [ATX2L_MOUSE]	0	8	0	9	0	8	**0**	**25**	N/A	1.520E-05	113	✓			✓	✓	(19)(23)	
45	Q80U93	NU214	Nuclear pore complex protein Nup214 GN=Nup214 PE=1 SV=2 - [NU214_MOUSE]	0	7	0	10	0	8	**0**	**25**	N/A	6.996E-04	213	✓				✓	(1)(2)(19)(20)(23)(26)	
46	Q7M6Y3-6	PICA	Isoform 6 of Phosphatidylinositol-binding clathrin assembly protein GN=Picalm - [PICA_MOUSE]	0	4	0	8	0	12	**0**	**24**	N/A	2.572E-02	70.5	✓				✓		(17)
47	Q6PFD9	Q6PFD9	Nucleoporin 98 GN=Nup98 PE=1 SV=1 - [Q6PFD9_MOUSE]	0	8	0	11	0	5	**0**	**24**	N/A	9.890E-03	125	✓				✓	(9)(20)	
48	Q6PB44-2	PTN23	Isoform 2 of Tyrosine-protein phosphatase non-receptor type 23 GN=Ptpn23 - [PTN23_MOUSE]	0	10	0	7	0	7	**0**	**24**	N/A	1.324E-03	185	✓				✓	(9)	
49	Q99K48	NONO	Non-POU domain-containing octamer-binding protein GN=Nono PE=1 SV=3 - [NONO_MOUSE]	0	5	0	9	0	10	**0**	**24**	N/A	6.352E-03	54.5	✓			✓	✓	(19)(23)(24)(26)	
50	P10852	4F2	4F2 cell-surface antigen heavy chain GN=Slc3a2 PE=1 SV=1 - [4F2_MOUSE]	0	9	0	5	0	9	**0**	**23**	N/A	4.535E-03	58.3			✓		✓		(10)(17)
51	Q9QXS6-3	DREB	Isoform E2 of Drebrin GN=Dbn1 - [DREB_MOUSE]	0	9	0	5	0	9	**0**	**23**	N/A	4.535E-03	72.4	✓			✓	✓	(9)(23)	
52	O09106	HDAC1	Histone deacetylase 1 GN=Hdac1 PE=1 SV=1 - [HDAC1_MOUSE]	0	8	0	5	0	10	**0**	**23**	N/A	6.185E-03	55.0	✓			✓		(9)(19)(23)	
53	P98078	DAB2	Disabled homolog 2 GN=Dab2 PE=1 SV=2 - [DAB2_MOUSE]	0	6	0	10	0	7	**0**	**23**	N/A	3.098E-03	82.3	✓			✓	✓		
54	Q9WVG6-2	CARM1	Isoform 2 of Histone-arginine methyltransferase CARM1 GN=Carm1 - [CARM1_MOUSE]	0	7	0	6	0	9	**0**	**22**	N/A	1.143E-03	63.4	✓			✓	✓	(5)(19)(23)	
55	Q8K310	MATR3	Matrin-3 GN=Matr3 PE=1 SV=1 - [MATR3_MOUSE]	0	7	0	8	0	7	**0**	**22**	N/A	2.526E-05	94.6	✓			✓		(23)(26)	
56	Q62418-3	DBNL	Isoform 3 of Drebrin-like protein GN=Dbnl - [DBNL_MOUSE]	0	6	0	6	0	10	**0**	**22**	N/A	5.328E-03	48.3	✓			✓	✓	(23)(26)	
57	Q8BK67	RCC2	Protein RCC2 GN=Rcc2 PE=2 SV=1 - [RCC2_MOUSE]	0	9	0	5	0	8	**0**	**22**	N/A	3.650E-03	55.9	✓			✓		(23)	
58	Q9JLM8	DCLK1	Serine/threonine-protein kinase DCLK1 GN=Dclk1 PE=1 SV=1 - [DCLK1_MOUSE]	0	7	0	7	0	7	**0**	**21**	N/A	0.000E+00	84.1	✓			✓		(5)(20)	
59	Q8CH18	CCAR1	Cell division cycle and apoptosis regulator protein 1 GN=Ccar1 PE=1 SV=1 - [CCAR1_MOUSE]	0	8	0	8	0	5	**0**	**21**	N/A	2.192E-03	132	✓				✓	(19)(23)	
60	Q8R317-2	UBQL1	Isoform 2 of Ubiquilin-1 GN=Ubqln1 - [UBQL1_MOUSE]	0	6	0	5	0	10	**0**	**21**	N/A	1.016E-02	58.6	✓				✓		
61	Q8R317	UBQL1	Ubiquilin-1 GN=Ubqln1 PE=1 SV=1 - [UBQL1_MOUSE]	0	6	0	5	0	10	**0**	**21**	N/A	1.016E-02	61.9	✓				✓		
62	F6T2Z7	F6T2Z7	Protein Cald1 (Fragment) GN=Cald1 PE=4 SV=1 - [F6T2Z7_MOUSE]	0	6	0	6	0	9	**0**	**21**	N/A	2.192E-03	41.4	✓			✓	✓		
63	P54728	RD23B	UV excision repair protein RAD23 homolog B GN=Rad23b PE=1 SV=2 - [RD23B_MOUSE]	0	8	0	6	0	6	**0**	**20**	N/A	5.620E-04	43.5	✓				✓	(5)(23)	(17)
64	P45377	ALD2	Aldose reductase-related protein 2 GN=Akr1b8 PE=1 SV=2 - [ALD2_MOUSE]	0	6	0	4	0	10	**0**	**20**	N/A	1.944E-02	36.1	✓			✓	✓	(9)(26)	
65	Q8R050-2	ERF3A	Isoform 2 of Eukaryotic peptide chain release factor GTP-binding subunit ERF3A GN=Gspt1 - [ERF	0	7	0	6	0	7	**0**	**20**	N/A	3.688E-05	68.5	✓			✓		(9)(23)(26)	
66	P70372	ELAV1	ELAV-like protein 1 GN=Elavl1 PE=1 SV=2 - [ELAV1_MOUSE]	0	8	0	6	0	6	**0**	**20**	N/A	5.620E-04	36.1	✓			✓		(9)(19)(26)	
67	P51125-3	ICAL	Isoform 3 of Calpastatin GN=Cast - [ICAL_MOUSE]	0	5	0	8	0	7	**0**	**20**	N/A	1.641E-03	79.6	✓			✓		(26)	
68	P51859	HDGF	Hepatoma-derived growth factor GN=Hdgf PE=1 SV=2 - [HDGF_MOUSE]	0	7	0	7	0	6	**0**	**20**	N/A	3.688E-05	26.3	✓			✓	✓	(23)(26)	
69	Q9DBG5	PLIN3	Perilipin-3 GN=Plin3 PE=1 SV=1 - [PLIN3_MOUSE]	0	5	0	6	0	9	**0**	**20**	N/A	5.167E-03	47.2	✓			✓	✓	(1)(9)(20)(23)	

				GlcNAz																	
				Spectral Counts																	
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization					
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
70	Q921F4	HNRLL	Heterogeneous nuclear ribonucleoprotein L-like GN=Hnrpll PE=1 SV=3 - [HNRLL_MOUSE]	0	8	0	8	0	4	**0**	**20**	N/A	7.490E-03	64.1	✓			✓			
71	Q7TQI3	OTUB1	Ubiquitin thioesterase OTUB1 GN=Otub1 PE=1 SV=2 - [OTUB1_MOUSE]	0	5	0	6	0	8	**0**	**19**	N/A	1.991E-03	31.3	✓			✓		(5)(9)(23)(26)	
72	Q05CL8	LARP7	La-related protein 7 GN=Larp7 PE=1 SV=2 - [LARP7_MOUSE]	0	5	0	6	0	8	**0**	**19**	N/A	1.991E-03	64.8	✓			✓		(23)	
73	G5E8E1	G5E8E1	Leucine rich repeat (In FLII) interacting protein 1, isoform CRA_e GN=Lrrfip1 PE=4 SV=1 - [G5E8E	0	5	0	6	0	8	**0**	**19**	N/A	1.991E-03	48.9	✓			✓	✓		
74	G3UWA6	G3UWA6	4F2 cell-surface antigen heavy chain GN=Slc3a2 PE=4 SV=1 - [G3UWA6_MOUSE]	0	7	0	4	0	7	**0**	**18**	N/A	3.883E-03	62.2			✓		✓		(10)
75	Q8BYK6	YTHD3	YTH domain family protein 3 GN=Ythdf3 PE=1 SV=2 - [YTHD3_MOUSE]	0	6	0	6	0	6	**0**	**18**	N/A	0.000E+00	63.9	✓				✓	(1)(19)(20)	
76	Q8C052	MAP1S	Microtubule-associated protein 1S GN=Map1s PE=1 SV=2 - [MAP1S_MOUSE]	0	6	0	6	0	5	**0**	**17**	N/A	7.021E-05	103	✓			✓		(9)(23)(26)	
77	A2AMW0	A2AMW0	Capping protein (Actin filament) muscle Z-line, beta GN=Capzb PE=4 SV=1 - [A2AMW0_MOUSE]	0	6	0	7	0	4	**0**	**17**	N/A	3.016E-03	29.3	✓			✓		(5)(26)	
78	Q64012-2	RALY	Isoform 1 of RNA-binding protein Raly GN=Raly - [RALY_MOUSE]	0	7	0	3	0	7	**0**	**17**	N/A	1.316E-02	31.2	✓			✓			
79	Q60967	PAPS1	Bifunctional 3'-phosphoadenosine 5'-phosphosulfate synthase 1 GN=Papss1 PE=2 SV=1 - [PAPS1	0	7	0	4	0	6	**0**	**17**	N/A	3.016E-03	70.7	✓			✓			
80	O08529	CAN2	Calpain-2 catalytic subunit GN=Capn2 PE=2 SV=4 - [CAN2_MOUSE]	0	8	0	3	0	6	**0**	**17**	N/A	1.754E-02	79.8	✓			✓			
81	Q9Z1D1	EIF3G	Eukaryotic translation initiation factor 3 subunit G GN=Eif3g PE=1 SV=2 - [EIF3G_MOUSE]	0	6	0	7	0	3	**0**	**16**	N/A	1.135E-02	35.6	✓			✓	✓	(9)(19)(23)(26)	
82	Q60737	CSK21	Casein kinase II subunit alpha GN=Csnk2a1 PE=1 SV=2 - [CSK21_MOUSE]	0	7	0	5	0	4	**0**	**16**	N/A	3.772E-03	45.1	✓				✓	(5)	
83	P31230	AIMP1	Aminoacyl tRNA synthase complex-interacting multifunctional protein 1 GN=Aimp1 PE=1 SV=2 -	0	6	0	5	0	5	**0**	**16**	N/A	8.922E-05	34.0			✓	✓	✓	(1)	
84	Q8K3Z9	PO121	Nuclear envelope pore membrane protein POM 121 GN=Pom121 PE=1 SV=2 - [PO121_MOUSE]	0	5	0	5	0	6	**0**	**16**	N/A	8.922E-05	121	✓				✓	(1)	
85	P19096	FAS	Fatty acid synthase GN=Fasn PE=1 SV=2 - [FAS_MOUSE]	0	4	0	6	0	5	**0**	**15**	N/A	9.781E-04	272	✓			✓		(5)(8)(9)(23)	
86	P23198	CBX3	Chromobox protein homolog 3 GN=Cbx3 PE=1 SV=2 - [CBX3_MOUSE]	0	5	0	4	0	6	**0**	**15**	N/A	9.781E-04	20.8	✓			✓		(23)(26)	
87	Q64337	SQSTM	Sequestosome-1 GN=Sqstm1 PE=1 SV=1 - [SQSTM_MOUSE]	0	4	0	5	0	6	**0**	**15**	N/A	9.781E-04	48.1	✓			✓		(23)	
88	Q8C7R4	UBA6	Ubiquitin-like modifier-activating enzyme 6 GN=Uba6 PE=1 SV=1 - [UBA6_MOUSE]	0	3	0	4	0	8	**0**	**15**	N/A	3.069E-02	118	✓			✓		(23)	
89	Q3THS6	METK2	S-adenosylmethionine synthase isoform type-2 GN=Mat2a PE=2 SV=2 - [METK2_MOUSE]	0	4	0	4	0	7	**0**	**15**	N/A	7.490E-03	43.7	✓			✓		(20)	
90	Q6PHZ2-2	KCC2D	Isoform 2 of Calcium/calmodulin-dependent protein kinase type II subunit delta GN=Camk2d - [K	0	6	0	4	0	5	**0**	**15**	N/A	9.781E-04	54.1	✓			✓			
91	P47930	FOSL2	Fos-related antigen 2 GN=Fosl2 PE=2 SV=2 - [FOSL2_MOUSE]	0	5	0	6	0	4	**0**	**15**	N/A	9.781E-04	35.3	✓				✓		
92	J3QNB1	J3QNB1	La-related protein 1 GN=Larp1 PE=4 SV=1 - [J3QNB1_MOUSE]	0	7	0	3	0	5	**0**	**15**	N/A	1.235E-02	121	✓			✓			
93	Q9JLV1	BAG3	BAG family molecular chaperone regulator 3 GN=Bag3 PE=1 SV=2 - [BAG3_MOUSE]	0	4	0	5	0	5	**0**	**14**	N/A	1.510E-04	61.8	✓			✓	✓	(23)(26)	(17)
94	Q9R0P5	DEST	Destrin GN=Dstn PE=1 SV=3 - [DEST_MOUSE]	0	4	0	4	0	6	**0**	**14**	N/A	2.192E-03	18.5	✓			✓	✓	(9)(26)	
95	P59326	YTHD1	YTH domain family protein 1 GN=Ythdf1 PE=2 SV=1 - [YTHD1_MOUSE]	0	4	0	5	0	5	**0**	**14**	N/A	1.510E-04	60.8	✓				✓	(9)(19)	
96	Q3TN34	Q3TN34	JRAB GN=Micall2 PE=2 SV=1 - [Q3TN34_MOUSE]	0	4	0	7	0	3	**0**	**14**	N/A	1.780E-02	108	✓				✓	(26)	
97	Q8BI72	CARF	CDKN2A-interacting protein GN=Cdkn2aip PE=2 SV=1 - [CARF_MOUSE]	0	4	0	4	0	6	**0**	**14**	N/A	2.192E-03	59.7	✓			✓		(23)	
98	Q8K354	CBR3	Carbonyl reductase [NADPH] 3 GN=Cbr3 PE=2 SV=1 - [CBR3_MOUSE]	0	4	0	4	0	6	**0**	**14**	N/A	2.192E-03	30.9	✓			✓			
99	Q9WV55	VAPA	Vesicle-associated membrane protein-associated protein A GN=Vapa PE=1 SV=2 - [VAPA_MOUSE	0	4	0	3	0	6	**0**	**13**	N/A	7.966E-03	27.8			✓			(9)(26)	
100	Q99JF8	PSIP1	PC4 and SFRS1-interacting protein GN=Psip1 PE=1 SV=1 - [PSIP1_MOUSE]	0	4	0	5	0	4	**0**	**13**	N/A	2.020E-04	59.7	✓					(9)(23)	
101	Q8BVY0	Q8BVY0	Protein Rsl1d1 GN=Rsl1d1 PE=2 SV=1 - [Q8BVY0_MOUSE]	0	3	0	3	0	7	**0**	**13**	N/A	3.138E-02	50.4	✓			✓		(9)	
102	B7ZCP4	B7ZCP4	Copine I GN=Cpne1 PE=4 SV=1 - [B7ZCP4_MOUSE]	0	5	0	4	0	4	**0**	**13**	N/A	2.020E-04	52.8	✓			✓		(9)	
103	P68037	UB2L3	Ubiquitin-conjugating enzyme E2 L3 GN=Ube2l3 PE=2 SV=1 - [UB2L3_MOUSE]	0	5	0	3	0	5	**0**	**13**	N/A	2.890E-03	17.9	✓			✓		(26)	
104	Q61081	CDC37	Hsp90 co-chaperone Cdc37 GN=Cdc37 PE=2 SV=1 - [CDC37_MOUSE]	0	6	0	3	0	4	**0**	**13**	N/A	7.966E-03	44.6	✓			✓		(23)(26)	
105	Q80YR5	SAFB2	Scaffold attachment factor B2 GN=Safb2 PE=1 SV=2 - [SAFB2_MOUSE]	0	5	0	3	0	5	**0**	**13**	N/A	2.890E-03	112	✓			✓		(23)	
106	Q60710	SAMH1	SAM domain and HD domain-containing protein 1 GN=Samhd1 PE=1 SV=2 - [SAMH1_MOUSE]	0	4	0	4	0	5	**0**	**13**	N/A	2.020E-04	72.6	✓			✓	✓	(23)	
107	Q91W50	CSDE1	Cold shock domain-containing protein E1 GN=Csde1 PE=2 SV=1 - [CSDE1_MOUSE]	0	4	0	4	0	5	**0**	**13**	N/A	2.020E-04	88.7	✓			✓		(19)(23)	
108	Q8R1X6	SPG20	Spartin GN=Spg20 PE=2 SV=1 - [SPG20_MOUSE]	0	6	0	3	0	4	**0**	**13**	N/A	7.966E-03	72.6	✓			✓		(1)(9)(20)	
109	Q921K2	Q921K2	Poly (ADP-ribose) polymerase family, member 1 GN=Parp1 PE=2 SV=1 - [Q921K2_MOUSE]	0	4	0	4	0	5	**0**	**13**	N/A	2.020E-04	113	✓			✓			
110	Q6NZD2	Q6NZD2	Sorting nexin 1 GN=Snx1 PE=2 SV=1 - [Q6NZD2_MOUSE]	0	5	0	4	0	4	**0**	**13**	N/A	2.020E-04	58.8	✓			✓	✓		
111	O89110	CASP8	Caspase-8 GN=Casp8 PE=1 SV=1 - [CASP8_MOUSE]	0	3	0	5	0	5	**0**	**13**	N/A	2.890E-03	55.3	✓			✓			

				GlcNAz																
				Spectral Counts																
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization					
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
112	D3YXK2	SAFB1	Scaffold attachment factor B1 GN=Safb PE=1 SV=2 - [SAFB1_MOUSE]	0	6	0	3	0	4	**0**	**13**	N/A	7.966E-03	105	✓			✓	✓		
113	O70310	NMT1	Glycylpeptide N-tetradecanoyltransferase 1 GN=Nmt1 PE=1 SV=1 - [NMT1_MOUSE]	0	6	0	4	0	2	**0**	**12**	N/A	2.572E-02	56.9	✓			✓		(23)	(17)
114	P49586	PCY1A	Choline-phosphate cytidylyltransferase A GN=Pcyt1a PE=1 SV=1 - [PCY1A_MOUSE]	0	3	0	5	0	4	**0**	**12**	N/A	2.278E-03	41.6	✓			✓		(23)	
115	Q6NXL1	Q6NXL1	Protein Sec24d GN=Sec24d PE=2 SV=1 - [Q6NXL1_MOUSE]	0	2	0	5	0	5	**0**	**12**	N/A	1.613E-02	113	✓				✓	(2)	
116	P01899	HA11	H-2 class I histocompatibility antigen, D-B alpha chain GN=H2-D1 PE=1 SV=2 - [HA11_MOUSE]	0	4	0	4	0	4	**0**	**12**	N/A	0.000E+00	40.8			✓		✓		
117	P01897	HA1L	H-2 class I histocompatibility antigen, L-D alpha chain GN=H2-L PE=1 SV=2 - [HA1L_MOUSE]	0	4	0	4	0	4	**0**	**12**	N/A	0.000E+00	40.7			✓		✓		
118	Q99K51	PLST	Plastin-3 GN=Pls3 PE=1 SV=3 - [PLST_MOUSE]	0	2	0	5	0	5	**0**	**12**	N/A	1.613E-02	70.7	✓			✓			
119	Q62426	CYTB	Cystatin-B GN=Cstb PE=1 SV=1 - [CYTB_MOUSE]	0	4	0	5	0	3	**0**	**12**	N/A	2.278E-03	11.0	✓			✓			
120	Q9CXW3	CYBP	Calcyclin-binding protein GN=Cacybp PE=1 SV=1 - [CYBP_MOUSE]	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	26.5	✓			✓		(9)(26)	
121	Q9WTK5	NFKB2	Nuclear factor NF-kappa-B p100 subunit GN=Nfkb2 PE=1 SV=1 - [NFKB2_MOUSE]	0	3	0	4	0	4	**0**	**11**	N/A	3.882E-04	96.8	✓			✓	✓	(9)(23)(26)	
122	O70305-2	ATX2	Isoform 2 of Ataxin-2 GN=Atxn2 - [ATX2_MOUSE]	0	3	0	3	0	5	**0**	**11**	N/A	5.328E-03	129	✓			✓	✓	(9)	
123	O55137	ACOT1	Acyl-coenzyme A thioesterase 1 GN=Acot1 PE=1 SV=1 - [ACOT1_MOUSE]	0	4	0	3	0	4	**0**	**11**	N/A	3.882E-04	46.1	✓			✓		(9)	
124	A2AVJ7	A2AVJ7	Ribosome binding protein 1 GN=Rrbp1 PE=4 SV=1 - [A2AVJ7_MOUSE]	0	2	0	4	0	5	**0**	**11**	N/A	1.417E-02	158	✓			✓		(9)	
125	P83741-4	WNK1	Isoform 4 of Serine/threonine-protein kinase WNK1 GN=Wnk1 - [WNK1_MOUSE]	0	2	0	5	0	4	**0**	**11**	N/A	1.417E-02	225	✓				✓	(5)(13)(19)(23)	
126	Q76MZ3	2AAA	Serine/threonine-protein phosphatase 2A 65 kDa regulatory subunit A alpha isoform GN=Ppp2r1a	0	4	0	3	0	4	**0**	**11**	N/A	3.882E-04	65.3	✓			✓		(4)(9)(14)	
127	Q08093	CNN2	Calponin-2 GN=Cnn2 PE=2 SV=1 - [CNN2_MOUSE]	0	4	0	3	0	4	**0**	**11**	N/A	3.882E-04	33.1	✓			✓	✓	(23)(26)	
128	P70288	HDAC2	Histone deacetylase 2 GN=Hdac2 PE=1 SV=1 - [HDAC2_MOUSE]	0	5	0	3	0	3	**0**	**11**	N/A	5.328E-03	55.3	✓			✓		(23)	
129	O70551	SRPK1	SRSF protein kinase 1 GN=Srpk1 PE=1 SV=2 - [SRPK1_MOUSE]	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	73.0	✓			✓		(23)	
130	P32921-2	SYWC	Isoform 2 of Tryptophan--tRNA ligase, cytoplasmic GN=Wars - [SYWC_MOUSE]	0	4	0	2	0	5	**0**	**11**	N/A	1.417E-02	53.6	✓			✓		(14)(23)	
131	Q9Z1A1	Q9Z1A1	Protein Tfg GN=Tfg PE=2 SV=1 - [Q9Z1A1_MOUSE]	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	43.0	✓				✓		
132	G3X9V0	G3X9V0	MCG22048, isoform CRA_a GN=Psme2 PE=4 SV=1 - [G3X9V0_MOUSE]	0	3	0	3	0	5	**0**	**11**	N/A	5.328E-03	26.1	✓			✓			
133	F6TQN9	F6TQN9	Disabled homolog 2 (Fragment) GN=Dab2 PE=4 SV=1 - [F6TQN9_MOUSE]	0	3	0	5	0	3	**0**	**11**	N/A	5.328E-03	67.8	✓				✓		
134	E9Q7W0	E9Q7W0	Recombining-binding protein suppressor of hairless GN=Rbpj PE=4 SV=1 - [E9Q7W0_MOUSE]	0	4	0	3	0	4	**0**	**11**	N/A	3.882E-04	54.3	✓				✓		
135	E9Q7G0	E9Q7G0	Protein Numa1 GN=Numa1 PE=4 SV=1 - [E9Q7G0_MOUSE]	0	3	0	5	0	3	**0**	**11**	N/A	5.328E-03	236	✓			✓			
136	Q8C156	CND2	Condensin complex subunit 2 GN=Ncaph PE=2 SV=1 - [CND2_MOUSE]	0	3	0	3	0	4	**0**	**10**	N/A	5.620E-04	82.3	✓			✓		(9)(23)	
137	Q99NB8	UBQL4	Ubiquilin-4 GN=Ubqln4 PE=1 SV=1 - [UBQL4_MOUSE]	0	2	0	3	0	5	**0**	**10**	N/A	1.944E-02	63.5	✓			✓	✓	(9)	
138	G3X8Q0	G3X8Q0	Trans-acting transcription factor 1 GN=Sp1 PE=4 SV=1 - [G3X8Q0_MOUSE]	0	4	0	3	0	3	**0**	**10**	N/A	5.620E-04	80.4	✓			✓	✓	(9)	
139	Q9D5T0	ATAD1	ATPase family AAA domain-containing protein 1 GN=Atad1 PE=1 SV=1 - [ATAD1_MOUSE]	0	3	0	4	0	3	**0**	**10**	N/A	5.620E-04	40.7	✓			✓		(23)	
140	Q91Z38	TTC1	Tetratricopeptide repeat protein 1 GN=Ttc1 PE=2 SV=1 - [TTC1_MOUSE]	0	2	0	3	0	5	**0**	**10**	N/A	1.944E-02	33.2	✓			✓		(23)	
141	Q8BTI8-3	SRRM2	Isoform 3 of Serine/arginine repetitive matrix protein 2 GN=Srrm2 - [SRRM2_MOUSE]	0	2	0	5	0	3	**0**	**10**	N/A	1.944E-02	285	✓			✓		(23)	
142	Q8BJU0-2	SGTA	Isoform 2 of Small glutamine-rich tetratricopeptide repeat-containing protein alpha GN=Sgta - [SG	0	3	0	3	0	4	**0**	**10**	N/A	5.620E-04	34.2	✓					(23)	
143	Q8CFQ9	Q8CFQ9	Fusion, derived from t(12;16) malignant liposarcoma (Human) GN=Fus PE=2 SV=1 - [Q8CFQ9_MO	0	3	0	3	0	4	**0**	**10**	N/A	5.620E-04	52.6	✓				✓		
144	P54729	NUB1	NEDD8 ultimate buster 1 GN=Nub1 PE=1 SV=2 - [NUB1_MOUSE]	0	4	0	4	0	2	**0**	**10**	N/A	7.490E-03	70.3	✓						
145	O70494-2	SP3	Isoform 2 of Transcription factor Sp3 GN=Sp3 - [SP3_MOUSE]	0	3	0	3	0	4	**0**	**10**	N/A	5.620E-04	78.3	✓				✓		
146	E9Q066	E9Q066	La-related protein 4 GN=Larp4 PE=4 SV=1 - [E9Q066_MOUSE]	0	3	0	3	0	4	**0**	**10**	N/A	5.620E-04	79.6	✓			✓			
147	P61222	ABCE1	ATP-binding cassette sub-family E member 1 GN=Abce1 PE=2 SV=1 - [ABCE1_MOUSE]	0	2	0	3	0	4	**0**	**9**	N/A	6.533E-03	67.3	✓					(9)(23)(26)	
148	Q5UE59	Q5UE59	Kinesin light chain 1 GN=Klc1 PE=2 SV=1 - [Q5UE59_MOUSE]	0	2	0	3	0	4	**0**	**9**	N/A	6.533E-03	61.6	✓			✓		(9)	
149	Q7TSJ2-3	MAP6	Isoform 3 of Microtubule-associated protein 6 GN=Map6 - [MAP6_MOUSE]	0	3	0	3	0	3	**0**	**9**	N/A	0.000E+00	32.8	✓			✓	✓	(5)	
150	Q924B0	Q924B0	Inositol (Myo)-1(Or 4)-monophosphatase 1 GN=Impa1 PE=2 SV=1 - [Q924B0_MOUSE]	0	3	0	2	0	4	**0**	**9**	N/A	6.533E-03	30.4	✓					(26)	
151	Q6PDL0	DC1L2	Cytoplasmic dynein 1 light intermediate chain 2 GN=Dync1li2 PE=1 SV=2 - [DC1L2_MOUSE]	0	5	0	2	0	2	**0**	**9**	N/A	3.994E-02	54.2	✓					(23)	
152	P04095	PR2C2	Prolactin-2C2 GN=Prl2c2 PE=1 SV=1 - [PR2C2_MOUSE]	0	5	0	2	0	2	**0**	**9**	N/A	3.994E-02	25.4		✓			✓		
153	Q9WU78	PDC6I	Programmed cell death 6-interacting protein GN=Pdcd6ip PE=1 SV=3 - [PDC6I_MOUSE]	0	2	0	3	0	4	**0**	**9**	N/A	6.533E-03	96.0	✓			✓	✓		

				GlcNAz																
				Spectral Counts												Localization				
				Experiment 1		Experiment 2		Experiment 3		Sum										
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
154	Q9R0X4	ACOT9	Acyl-coenzyme A thioesterase 9, mitochondrial GN=Acot9 PE=1 SV=1 - [ACOT9_MOUSE]	0	3	0	3	0	3	**0**	**9**	N/A	0.000E+00	50.5	✓			✓			
155	Q9DBC7	KAP0	cAMP-dependent protein kinase type I-alpha regulatory subunit GN=Prkar1a PE=1 SV=3 - [KAP0_	0	2	0	3	0	4	**0**	**9**	N/A	6.533E-03	43.2	✓			✓			
156	Q91YT7	Q91YT7	Protein Ythdf2 GN=Ythdf2 PE=2 SV=1 - [Q91YT7_MOUSE]	0	3	0	3	0	3	**0**	**9**	N/A	0.000E+00	62.2	✓				✓		
157	Q8VE88-2	F1142	Isoform 2 of Protein FAM114A2 GN=Fam114a2 - [F1142_MOUSE]	0	3	0	3	0	3	**0**	**9**	N/A	0.000E+00	53.3	✓			✓			
158	D3YUW8	D3YUW8	Pogo transposable element with ZNF domain GN=Pogz PE=4 SV=1 - [D3YUW8_MOUSE]	0	4	0	3	0	2	**0**	**9**	N/A	6.533E-03	145	✓				✓		
159	Q3UPH1	PRRC1	Protein PRRC1 GN=Prrc1 PE=2 SV=1 - [PRRC1_MOUSE]	0	3	0	2	0	3	**0**	**8**	N/A	1.324E-03	46.3		✓			✓	(9)(19)(26)	(17)
160	Q8BH97	RCN3	Reticulocalbin-3 GN=Rcn3 PE=2 SV=1 - [RCN3_MOUSE]	0	2	0	2	0	4	**0**	**8**	N/A	1.613E-02	38.0		✓			✓		(17)
161	E9QP49	E9QP49	EH domain-binding protein 1-like protein 1 GN=Ehbp1l1 PE=4 SV=1 - [E9QP49_MOUSE]	0	3	0	2	0	3	**0**	**8**	N/A	1.324E-03	185	✓					(9)	
162	Q8VCF0	MAVS	Mitochondrial antiviral-signaling protein GN=Mavs PE=1 SV=1 - [MAVS_MOUSE]	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	53.4	✓			✓	✓	(5)(20)(23)	
163	O09172	GSH0	Glutamate--cysteine ligase regulatory subunit GN=Gclm PE=2 SV=1 - [GSH0_MOUSE]	0	2	0	2	0	4	**0**	**8**	N/A	1.613E-02	30.5	✓			✓		(23)(26)	
164	Q9Z1Z0-2	USO1	Isoform 2 of General vesicular transport factor p115 GN=Uso1 - [USO1_MOUSE]	0	1	0	3	0	4	**0**	**8**	N/A	3.902E-02	100	✓			✓		(23)	
165	Q8K327	CHAP1	Chromosome alignment-maintaining phosphoprotein 1 GN=Champ1 PE=1 SV=1 - [CHAP1_MOU	0	2	0	4	0	2	**0**	**8**	N/A	1.613E-02	87.5	✓					(23)	
166	Q3UY34	CL043	Uncharacterized protein C12orf43 homolog PE=2 SV=1 - [CL043_MOUSE]	0	3	0	3	0	2	**0**	**8**	N/A	1.324E-03	27.6	✓			✓		(23)	
167	Q3UPF5-2	ZCCHV	Isoform 2 of Zinc finger CCCH-type antiviral protein 1 GN=Zc3hav1 - [ZCCHV_MOUSE]	0	2	0	4	0	2	**0**	**8**	N/A	1.613E-02	88.2	✓					(23)	
168	P43247	MSH2	DNA mismatch repair protein Msh2 GN=Msh2 PE=2 SV=1 - [MSH2_MOUSE]	0	3	0	2	0	3	**0**	**8**	N/A	1.324E-03	104	✓			✓		(23)	
169	P63037	DNJA1	DnaJ homolog subfamily A member 1 GN=Dnaja1 PE=1 SV=1 - [DNJA1_MOUSE]	0	4	0	2	0	2	**0**	**8**	N/A	1.613E-02	44.8	✓			✓		(19)(26)	
170	Q99LA2	Q99LA2	Protein Zfp207 GN=Zfp207 PE=2 SV=1 - [Q99LA2_MOUSE]	0	2	0	2	0	4	**0**	**8**	N/A	1.613E-02	49.8	✓				✓		
171	Q6P5B5	Q6P5B5	Fragile X mental retardation syndrome-related protein 2 GN=Fxr2 PE=2 SV=1 - [Q6P5B5_MOUSE	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	74.2	✓			✓			
172	Q6NSQ7	LTV1	Protein LTV1 homolog GN=Ltv1 PE=2 SV=2 - [LTV1_MOUSE]	0	3	0	1	0	3	**0**	**7**	N/A	2.490E-02	54.0	✓			✓		(9)(23)	
173	P15307	REL	Proto-oncogene c-Rel GN=Rel PE=1 SV=2 - [REL_MOUSE]	0	3	0	3	0	1	**0**	**7**	N/A	2.490E-02	64.9	✓			✓	✓	(9)(23)	
174	P05627	JUN	Transcription factor AP-1 GN=Jun PE=1 SV=3 - [JUN_MOUSE]	0	3	0	1	0	3	**0**	**7**	N/A	2.490E-02	35.9	✓				✓	(9)(23)	
175	Q9WV92-3	E41L3	Isoform 3 of Band 4.1-like protein 3 GN=Epb41l3 - [E41L3_MOUSE]	0	3	0	2	0	2	**0**	**7**	N/A	2.192E-03	102	✓				✓	(9)	
176	Q6P4T3	Q6P4T3	Eyes absent 3 homolog (Drosophila) GN=Eya3 PE=2 SV=1 - [Q6P4T3_MOUSE]	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	57.8	✓				✓	(9)	
177	Q8JZK9	HMCS1	Hydroxymethylglutaryl-CoA synthase, cytoplasmic GN=Hmgcs1 PE=1 SV=1 - [HMCS1_MOUSE]	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	57.5	✓			✓		(5)	
178	O55091	IMPCT	Protein IMPACT GN=Impact PE=1 SV=2 - [IMPCT_MOUSE]	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	36.3	✓					(26)	
179	Q9CPV4-3	GLOD4	Isoform 3 of Glyoxalase domain-containing protein 4 GN=Glod4 - [GLOD4_MOUSE]	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	30.8	✓			✓		(23)(26)	
180	Q9JIH2	NUP50	Nuclear pore complex protein Nup50 GN=Nup50 PE=1 SV=3 - [NUP50_MOUSE]	0	3	0	1	0	3	**0**	**7**	N/A	2.490E-02	49.5	✓			✓		(23)	
181	Q6P5D8	SMHD1	Structural maintenance of chromosomes flexible hinge domain-containing protein 1 GN=Smchd1	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	226	✓			✓		(23)	
182	Q3TYX3	SMYD5	SET and MYND domain-containing protein 5 GN=Smyd5 PE=2 SV=2 - [SMYD5_MOUSE]	0	3	0	1	0	3	**0**	**7**	N/A	2.490E-02	47.1	✓					(23)	
183	Q69Z38	PEAK1	Pseudopodium-enriched atypical kinase 1 GN=Peak1 PE=1 SV=4 - [PEAK1_MOUSE]	0	3	0	2	0	2	**0**	**7**	N/A	2.192E-03	191	✓			✓		(20)(23)	
184	A2ATI9	A2ATI9	Golgi reassembly stacking protein 2 GN=Gorasp2 PE=4 SV=1 - [A2ATI9_MOUSE]	0	1	0	3	0	3	**0**	**7**	N/A	2.490E-02	45.0			✓		✓	(13)	
185	Q99P91	GPNMB	Transmembrane glycoprotein NMB GN=Gpnmb PE=1 SV=2 - [GPNMB_MOUSE]	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	63.6			✓		✓		
186	Q5SUH7	Q5SUH7	Clathrin interactor 1 GN=Clint1 PE=2 SV=1 - [Q5SUH7_MOUSE]	0	1	0	3	0	3	**0**	**7**	N/A	2.490E-02	67.7	✓				✓		
187	E9QP59	E9QP59	Inner nuclear membrane protein Man1 GN=Lemd3 PE=4 SV=1 - [E9QP59_MOUSE]	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	100	✓			✓			
188	E9Q5E0	E9Q5E0	Myocyte-specific enhancer factor 2D GN=Mef2d PE=4 SV=1 - [E9Q5E0_MOUSE]	0	3	0	2	0	2	**0**	**7**	N/A	2.192E-03	54.1	✓				✓		
189	P08207	S10AA	Protein S100-A10 GN=S100a10 PE=2 SV=2 - [S10AA_MOUSE]	0	3	0	2	0	2	**0**	**7**	N/A	2.192E-03	11.2					✓		
190	Q62433	NDRG1	Protein NDRG1 GN=Ndrg1 PE=1 SV=1 - [NDRG1_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	43.0						(23)	(16)(17)
191	A2AAW9	A2AAW9	Eukaryotic translation initiation factor 2 subunit 3, X-linked GN=Eif2s3x PE=4 SV=1 - [A2AAW9_M	0	2	0	1	0	3	**0**	**6**	N/A	2.572E-02	37.2	✓			✓		(9)(26)	
192	Q9CYA6	ZCHC8	Zinc finger CCHC domain-containing protein 8 GN=Zcchc8 PE=2 SV=3 - [ZCHC8_MOUSE]	0	1	0	3	0	2	**0**	**6**	N/A	2.572E-02	78.0	✓			✓		(9)(23)	
193	Q9CR86	CHSP1	Calcium-regulated heat stable protein 1 GN=Carhsp1 PE=1 SV=1 - [CHSP1_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	16.1	✓			✓		(9)(23)	
194	Q03963	E2AK2	Interferon-induced, double-stranded RNA-activated protein kinase GN=Eif2ak2 PE=1 SV=2 - [E2A	0	2	0	3	0	1	**0**	**6**	N/A	2.572E-02	58.2	✓			✓		(9)(23)	
195	Q8VDM6	HNRL1	Heterogeneous nuclear ribonucleoprotein U-like protein 1 GN=Hnrnpul1 PE=1 SV=1 - [HNRL1_M	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	95.9	✓				✓	(9)	

				GlcNAz																
				Spectral Counts												Localization				
				Experiment 1		Experiment 2		Experiment 3		Sum										
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
196	Q8K0C9	GMDS	GDP-mannose 4,6 dehydratase GN=Gmds PE=2 SV=1 - [GMDS_MOUSE]	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	42.0	✓			✓		(9)	
197	Q3TL72	Q3TL72	NEDD8-activating enzyme E1 catalytic subunit GN=Uba3 PE=2 SV=1 - [Q3TL72_MOUSE]	0	3	0	2	0	1	**0**	**6**	N/A	2.572E-02	49.9	✓					(9)	
198	B7ZCL8	B7ZCL8	55 kDa erythrocyte membrane protein GN=Mpp1 PE=4 SV=1 - [B7ZCL8_MOUSE]	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	49.8				✓		(9)	
199	Q8K298	ANLN	Actin-binding protein anillin GN=Anln PE=1 SV=2 - [ANLN_MOUSE]	0	2	0	1	0	3	**0**	**6**	N/A	2.572E-02	123	✓			✓		(23)(26)	
200	Q9CWE0	FA54B	Protein FAM54B GN=Fam54b PE=1 SV=1 - [FA54B_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	31.7	✓			✓		(23)	
201	P62774	MTPN	Myotrophin GN=Mtpn PE=1 SV=2 - [MTPN_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	12.9	✓			✓		(23)	
202	O88622-2	PARG	Isoform 2 of Poly(ADP-ribose) glycohydrolase GN=Parg - [PARG_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	104	✓			✓		(23)	
203	P42669	PURA	Transcriptional activator protein Pur-alpha GN=Pura PE=1 SV=1 - [PURA_MOUSE]	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	34.9	✓			✓		(20)(23)	
204	Q6NZN0-5	RBM26	Isoform 5 of RNA-binding protein 26 GN=Rbm26 - [RBM26_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	111	✓				✓	(19)(23)	
205	Q5SFM8-2	RBM27	Isoform 2 of RNA-binding protein 27 GN=Rbm27 - [RBM27_MOUSE]	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	113	✓				✓	(19)(23)	
206	Q5PSV9	MDC1	Mediator of DNA damage checkpoint protein 1 GN=Mdc1 PE=1 SV=1 - [MDC1_MOUSE]	0	3	0	1	0	2	**0**	**6**	N/A	2.572E-02	185	✓			✓		(14)(23)	
207	P35235	PTN11	Tyrosine-protein phosphatase non-receptor type 11 GN=Ptpn11 PE=1 SV=2 - [PTN11_MOUSE]	0	2	0	1	0	3	**0**	**6**	N/A	2.572E-02	68.4	✓			✓		(14)(23)	
208	P0C7T6	ATX1L	Ataxin-1-like GN=Atxn1l PE=1 SV=1 - [ATX1L_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	73.3	✓				✓	(1)(9)	
209	Q8C2Q3	RBM14	RNA-binding protein 14 GN=Rbm14 PE=1 SV=1 - [RBM14_MOUSE]	0	2	0	3	0	1	**0**	**6**	N/A	2.572E-02	69.4	✓				✓	(1)(20)(23)(24)	
210	Q8BH80	Q8BH80	Vesicle-associated membrane protein, associated protein B and C GN=Vapb PE=2 SV=1 - [Q8BH8	0	2	0	1	0	3	**0**	**6**	N/A	2.572E-02	26.9			✓				
211	Q9JJU8	SH3L1	SH3 domain-binding glutamic acid-rich-like protein GN=Sh3bgrl PE=2 SV=1 - [SH3L1_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	12.8	✓						
212	P35123	UBP4	Ubiquitin carboxyl-terminal hydrolase 4 GN=Usp4 PE=1 SV=3 - [UBP4_MOUSE]	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	108	✓			✓			
213	E9Q7C1	E9Q7C1	Mediator of RNA polymerase II transcription subunit 15 GN=Med15 PE=4 SV=1 - [E9Q7C1_MOU	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	82.5	✓				✓		
214	E9Q5L7	E9Q5L7	PHD finger protein 10 GN=Phf10 PE=4 SV=2 - [E9Q5L7_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	26.9	✓			✓			
215	B1ATZ0	B1ATZ0	HGF-regulated tyrosine kinase substrate GN=Hgs PE=4 SV=1 - [B1ATZ0_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	85.7	✓				✓		
216	P17047	LAMP2	Lysosome-associated membrane glycoprotein 2 GN=Lamp2 PE=2 SV=2 - [LAMP2_MOUSE]	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	45.7			✓		✓	(9)(23)	(3)(16)(17)
217	Q8VIJ6	SFPQ	Splicing factor, proline- and glutamine-rich GN=Sfpq PE=1 SV=1 - [SFPQ_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	75.4	✓				✓	(5)(9)(19)(20)(23)(24)	(17)
218	Q8BPB5	FBLN3	EGF-containing fibulin-like extracellular matrix protein 1 GN=Efemp1 PE=2 SV=1 - [FBLN3_MOUS	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	54.9		✓			✓		(16)
219	P15379-2	CD44	Isoform 13 of CD44 antigen GN=Cd44 - [CD44_MOUSE]	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	40.0			✓		✓	(23)	(10)(16)
220	Q9WTX5	SKP1	S-phase kinase-associated protein 1 GN=Skp1 PE=1 SV=3 - [SKP1_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	18.7	✓			✓		(9)(23)	
221	Q9JKP5	MBNL1	Muscleblind-like protein 1 GN=Mbnl1 PE=1 SV=1 - [MBNL1_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	37.0	✓			✓	✓	(9)(23)	
222	Q9CU62	SMC1A	Structural maintenance of chromosomes protein 1A GN=Smc1a PE=1 SV=4 - [SMC1A_MOUSE]	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	143	✓					(9)(23)	
223	Q8BT60	CPNE3	Copine-3 GN=Cpne3 PE=1 SV=2 - [CPNE3_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	59.5	✓					(9)(23)	
224	P11983-2	TCPA	Isoform 2 of T-complex protein 1 subunit alpha GN=Tcp1 - [TCPA_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	55.4	✓					(9)(14)(23)(26)	
225	Q9Z1B5	MD2L1	Mitotic spindle assembly checkpoint protein MAD2A GN=Mad2l1 PE=2 SV=2 - [MD2L1_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	23.6	✓				✓	(9)	
226	H3BJU7	H3BJU7	Rho guanine nucleotide exchange factor 2 GN=Arhgef2 PE=4 SV=1 - [H3BJU7_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	109	✓					(9)	
227	Q61595-2	KTN1	Isoform 2 of Kinectin GN=Ktn1 - [KTN1_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	138			✓			(23)	
228	Q9CR00	PSMD9	26S proteasome non-ATPase regulatory subunit 9 GN=Psmd9 PE=1 SV=1 - [PSMD9_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	24.7	✓			✓		(23)	
229	Q8R2M2	TDIF2	Deoxynucleotidyltransferase terminal-interacting protein 2 GN=Dnttip2 PE=1 SV=1 - [TDIF2_MOU	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	84.2	✓			✓		(23)	
230	Q80YR4-2	ZN598	Isoform 2 of Zinc finger protein 598 GN=Znf598 - [ZN598_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	96.3	✓			✓		(23)	
231	Q7TNV0	DEK	Protein DEK GN=Dek PE=1 SV=1 - [DEK_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	43.1	✓			✓		(23)	
232	B1AR09	B1AR09	Myeloid/lymphoid or mixed lineage-leukemia translocation to 6 homolog (Drosophila) GN=Mllt6 F	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	111	✓				✓	(20)	
233	Q8VI36-2	PAXI	Isoform Alpha of Paxillin GN=Pxn - [PAXI_MOUSE]	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	60.8	✓				✓	(14)(23)	
234	P80317	TCPZ	T-complex protein 1 subunit zeta GN=Cct6a PE=1 SV=3 - [TCPZ_MOUSE]	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	58.0	✓					(14)	
235	Q8BP48	AMPM1	Methionine aminopeptidase 1 GN=Metap1 PE=2 SV=1 - [AMPM1_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	43.2	✓			✓			
236	Q8BH93	MISSL	MAPK-interacting and spindle-stabilizing protein-like GN=Mapk1ip1l PE=2 SV=3 - [MISSL_MOUSI	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	23.9	✓				✓		
237	Q62219-6	TGFI1	Isoform 6 of Transforming growth factor beta-1-induced transcript 1 protein GN=Tgfb1i1 - [TGFI1_	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	6.6	✓						

				GlcNAz																	
				Spectral Counts																	
				Experiment 1		Experiment 2		Experiment 3		Sum					Localization						
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
238	F6TWX0	F6TWX0	Nuclear transcription factor Y subunit alpha (Fragment) GN=Nfya PE=4 SV=1 - [F6TWX0_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	22.7	✓				✓		
239	E9Q242	E9Q242	Adenylosuccinate lyase GN=Adsl PE=4 SV=1 - [E9Q242_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	53.1	✓			✓			
240	B7ZP47	B7ZP47	Wapal protein GN=Wapal PE=2 SV=1 - [B7ZP47_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	133	✓			✓			
241	P11438	LAMP1	Lysosome-associated membrane glycoprotein 1 GN=Lamp1 PE=1 SV=2 - [LAMP1_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	43.8		✓			✓	(23)	(3)(15)(16)
242	Q925B0-2	PAWR	Isoform 2 of PRKC apoptosis WT1 regulator protein GN=Pawr - [PAWR_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	30.9	✓					(9)(23)	
243	Q8CDN6	TXNL1	Thioredoxin-like protein 1 GN=Txnl1 PE=1 SV=3 - [TXNL1_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	32.2	✓					(9)(23)	
244	Q3B7Z2-2	OSBP1	Isoform 2 of Oxysterol-binding protein 1 GN=Osbp - [OSBP1_MOUSE]	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	61.6	✓					(9)(23)	
245	Q80UU9	PGRC2	Membrane-associated progesterone receptor component 2 GN=Pgrmc2 PE=1 SV=2 - [PGRC2_M	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	23.3		✓				(9)	
246	Q9Z0E6	GBP2	Interferon-induced guanylate-binding protein 2 GN=Gbp2 PE=1 SV=1 - [GBP2_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	66.7	✓			✓		(9)	
247	Q9R1J0	NSDHL	Sterol-4-alpha-carboxylate 3-dehydrogenase, decarboxylating GN=Nsdhl PE=2 SV=1 - [NSDHL_M	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	40.7	✓				✓	(9)	
248	Q8BIH0-2	SP130	Isoform 2 of Histone deacetylase complex subunit SAP130 GN=Sap130 - [SP130_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	92.8	✓				✓	(9)	
249	Q8K1M6-4	DNM1L	Isoform 4 of Dynamin-1-like protein GN=Dnm1l - [DNM1L_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	68.7	✓					(5)(9)	
250	P13439	UMPS	Uridine 5'-monophosphate synthase GN=Umps PE=2 SV=3 - [UMPS_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	52.3	✓					(26)	
251	P35278	RAB5C	Ras-related protein Rab-5C GN=Rab5c PE=1 SV=2 - [RAB5C_MOUSE]	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	23.4	✓			✓		(23)(26)	
252	Q64514-2	TPP2	Isoform Short of Tripeptidyl-peptidase 2 GN=Tpp2 - [TPP2_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	138	✓			✓		(23)	
253	Q60953-2	PML	Isoform 2 of Protein PML GN=Pml - [PML_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	93.2	✓					(23)	
254	P51432	PLCB3	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase beta-3 GN=Plcb3 PE=2 SV=2 - [PLCE	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	139	✓					(23)	
255	O88291	ZN326	DBIRD complex subunit ZNF326 GN=Znf326 PE=1 SV=1 - [ZN326_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	65.2	✓					(23)	
256	Q8BQM4	HEAT3	HEAT repeat-containing protein 3 GN=Heatr3 PE=2 SV=1 - [HEAT3_MOUSE]	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	74.3				✓		(23)	
257	Q9JKV1	ADRM1	Proteasomal ubiquitin receptor ADRM1 GN=Adrm1 PE=1 SV=2 - [ADRM1_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	42.0	✓				✓	(20)(23)	
258	P00493	HPRT	Hypoxanthine-guanine phosphoribosyltransferase GN=Hprt1 PE=1 SV=3 - [HPRT_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	24.6	✓			✓		(19)	
259	Q922Y1	UBXN1	UBX domain-containing protein 1 GN=Ubxn1 PE=1 SV=1 - [UBXN1_MOUSE]	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	33.6	✓					(1)(23)	
260	E9Q9C5	E9Q9C5	V-type proton ATPase 16 kDa proteolipid subunit (Fragment) GN=Atp6v0c PE=3 SV=1 - [E9Q9C5	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	15.3			✓	✓			
261	Q8K1M3	Q8K1M3	Protein kinase, cAMP dependent regulatory, type II alpha GN=Prkar2a PE=2 SV=1 - [Q8K1M3_MC	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	45.6	✓						
262	Q80U35	ARHGH	Rho guanine nucleotide exchange factor 17 GN=Arhgef17 PE=1 SV=2 - [ARHGH_MOUSE]	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	222	✓						
263	Q6ZQK5	ACAP2	Arf-GAP with coiled-coil, ANK repeat and PH domain-containing protein 2 GN=Acap2 PE=1 SV=2	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	87.2	✓			✓			
264	Q6Q2Z6	ACOT5	Acyl-coenzyme A thioesterase 5 GN=Acot5 PE=1 SV=2 - [ACOT5_MOUSE]	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	46.5	✓						
265	G3UW40	G3UW40	MCG4620, isoform CRA_b GN=Mcc PE=4 SV=1 - [G3UW40_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	92.8	✓			✓			
266	P02469	LAMB1	Laminin subunit beta-1 GN=Lamb1 PE=1 SV=3 - [LAMB1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	197		✓				(9)	(16)(17)
267	Q6PGH2	HN1L	Hematological and neurological expressed 1-like protein GN=Hn1l PE=2 SV=1 - [HN1L_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	20.0	✓			✓		(9)(23)(26)	(16)
268	Q62348	TSN	Translin GN=Tsn PE=1 SV=1 - [TSN_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	26.2	✓			✓	✓	(9)(23)(26)	
269	Q9Z2M7	PMM2	Phosphomannomutase 2 GN=Pmm2 PE=2 SV=1 - [PMM2_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	27.6	✓					(9)(23)	
270	Q8K1R7	NEK9	Serine/threonine-protein kinase Nek9 GN=Nek9 PE=1 SV=2 - [NEK9_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	107	✓			✓		(9)(23)	
271	Q9JIF7	COPB	Coatomer subunit beta GN=Copb1 PE=1 SV=1 - [COPB_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	107	✓				✓	(9)(14)(23)	
272	Q91YS8	KCC1A	Calcium/calmodulin-dependent protein kinase type 1 GN=Camk1 PE=1 SV=1 - [KCC1A_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	41.6	✓			✓		(9)	
273	Q61164	CTCF	Transcriptional repressor CTCF GN=Ctcf PE=1 SV=2 - [CTCF_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	83.7	✓					(9)	
274	Q3TT92	Q3TT92	Dihydropyrimidinase-related protein 3 GN=Dpysl3 PE=2 SV=1 - [Q3TT92_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	61.7	✓			✓		(9)	
275	Q99LS3	SERB	Phosphoserine phosphatase GN=Psph PE=1 SV=1 - [SERB_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	25.1	✓			✓		(26)	
276	Q9QYC0-2	ADDA	Isoform 2 of Alpha-adducin GN=Add1 - [ADDA_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	69.8	✓					(23)	
277	Q9DBR1-2	XRN2	Isoform 2 of 5'-3' exoribonuclease 2 GN=Xrn2 - [XRN2_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	108	✓			✓		(23)	
278	Q8CIN4	PAK2	Serine/threonine-protein kinase PAK 2 GN=Pak2 PE=1 SV=1 - [PAK2_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	57.9	✓					(23)	
279	Q6P5G6	UBXN7	UBX domain-containing protein 7 GN=Ubxn7 PE=1 SV=2 - [UBXN7_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	52.1	✓				✓	(23)	

				GlcNAz Spectral Counts											Localization						
				Experiment 1		Experiment 2		Experiment 3		Sum											
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
280	Q3UHX0	NOL8	Nucleolar protein 8 GN=Nol8 PE=1 SV=2 - [NOL8_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	129	✓			✓		(23)	
281	P46061	RAGP1	Ran GTPase-activating protein 1 GN=Rangap1 PE=1 SV=2 - [RAGP1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	63.5	✓					(23)	
282	O08997	ATOX1	Copper transport protein ATOX1 GN=Atox1 PE=2 SV=1 - [ATOX1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	7.3	✓					(23)	
283	D3YUC9	D3YUC9	Methionine-R-sulfoxide reductase B3, mitochondrial GN=Msrb3 PE=4 SV=1 - [D3YUC9_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	12.1	✓			✓			
284	Q9JLJ5	ELOV1	Elongation of very long chain fatty acids protein 1 GN=Elovl1 PE=2 SV=1 - [ELOV1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	32.7			✓	✓	✓		
285	P46978	STT3A	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit STT3A GN=Stt3a PE=1 S\	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	80.5			✓				
286	P14719-2	ILRL1	Isoform B of Interleukin-1 receptor-like 1 GN=Il1rl1 - [ILRL1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	38.5			✓		✓		
287	Q9CR51	VATG1	V-type proton ATPase subunit G 1 GN=Atp6v1g1 PE=2 SV=3 - [VATG1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	13.7	✓			✓			
288	Q60929-2	MEF2A	Isoform 2 of Myocyte-specific enhancer factor 2A GN=Mef2a - [MEF2A_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	52.6	✓				✓		
289	Q5SWD9-2	TSR1	Isoform 2 of Pre-rRNA-processing protein TSR1 homolog GN=Tsr1 - [TSR1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	78.4	✓						
290	Q3TZX8-3	NOL9	Isoform 3 of Polynucleotide 5'-hydroxyl-kinase NOL9 GN=Nol9 - [NOL9_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	70.9	✓			✓			
291	J3JS94	J3JS94	L antigen family member 3 GN=Lage3 PE=4 SV=1 - [J3JS94_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	11.6	✓			✓			
292	A2AG83	A2AG83	26S proteasome non-ATPase regulatory subunit 10 GN=Psmd10 PE=4 SV=1 - [A2AG83_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	16.2	✓			✓			
293	F8WGW3	F8WGW3	S1 RNA-binding domain-containing protein 1 GN=Srbd1 PE=4 SV=1 - [F8WGW3_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	110							
294	O54931-2	AKAP2	Isoform 2 of A-kinase anchor protein 2 GN=Akap2 - [AKAP2_MOUSE]	0	15	1	17	0	17	**1**	**49**	49.00	2.785E-05	97.1	✓			✓	✓	(9)(23)(26)	
295	Q6DFW4	NOP58	Nucleolar protein 58 GN=Nop58 PE=1 SV=1 - [NOP58_MOUSE]	1	13	0	15	0	14	**1**	**42**	42.00	3.344E-05	60.3	✓			✓	✓	(9)(23)(26)	
296	Q8BFW7	LPP	Lipoma-preferred partner homolog GN=Lpp PE=1 SV=1 - [LPP_MOUSE]	0	11	1	15	0	14	**1**	**40**	40.00	4.786E-04	65.8	✓			✓	✓	(9)(20)(23)(26)	(16)
297	P80314	TCPB	T-complex protein 1 subunit beta GN=Cct2 PE=1 SV=4 - [TCPB_MOUSE]	1	10	0	9	0	19	**1**	**38**	38.00	1.819E-02	57.4	✓			✓		(5)(26)	
298	E9PVC5	E9PVC5	Eukaryotic translation initiation factor 4 gamma 1 GN=Eif4g1 PE=4 SV=1 - [E9PVC5_MOUSE]	0	9	1	11	0	12	**1**	**32**	32.00	3.937E-04	175	✓			✓	✓	(9)(12)	
299	Q61033	LAP2A	Lamina-associated polypeptide 2, isoforms alpha/zeta GN=Tmpo PE=1 SV=4 - [LAP2A_MOUSE]	1	11	0	8	0	13	**1**	**32**	32.00	2.274E-03	75.1	✓			✓	✓	(23)(26)	
300	P60335	PCBP1	Poly(rC)-binding protein 1 GN=Pcbp1 PE=1 SV=1 - [PCBP1_MOUSE]	0	10	1	10	0	11	**1**	**31**	31.00	2.920E-05	37.5	✓			✓	✓	(9)(14)(23)(26)	
301	P25206	MCM3	DNA replication licensing factor MCM3 GN=Mcm3 PE=1 SV=2 - [MCM3_MOUSE]	0	9	1	11	0	10	**1**	**30**	30.00	1.315E-04	91.5	✓			✓		(9)(23)	
302	Q9D0E1-2	HNRPM	Isoform 2 of Heterogeneous nuclear ribonucleoprotein M GN=Hnrnpm - [HNRPM_MOUSE]	1	14	1	17	0	26	**2**	**57**	28.50	7.165E-03	73.7	✓			✓		(9)(23)	
303	P70698	PYRG1	CTP synthase 1 GN=Ctps1 PE=1 SV=2 - [PYRG1_MOUSE]	1	8	0	6	0	10	**1**	**24**	24.00	3.098E-03	66.6	✓			✓		(23)(26)	
304	Q62167	DDX3X	ATP-dependent RNA helicase DDX3X GN=Ddx3x PE=1 SV=3 - [DDX3X_MOUSE]	0	6	1	5	0	11	**1**	**22**	22.00	2.061E-02	73.1	✓			✓		(23)(26)	
305	Q60598	SRC8	Src substrate cortactin GN=Cttn PE=1 SV=2 - [SRC8_MOUSE]	0	8	1	6	0	8	**1**	**22**	22.00	7.163E-04	61.2	✓			✓		(20)(26)	
306	Q8VHR5	P66B	Transcriptional repressor p66-beta GN=Gatad2b PE=1 SV=1 - [P66B_MOUSE]	0	5	1	8	0	8	**1**	**21**	21.00	3.198E-03	65.4	✓				✓	(1)(12)(20)(23)	
307	Q80X90	FLNB	Filamin-B GN=Flnb PE=1 SV=3 - [FLNB_MOUSE]	0	4	1	8	0	8	**1**	**20**	20.00	9.969E-03	278	✓			✓		(23)(26)	
308	Q91VI7	RINI	Ribonuclease inhibitor GN=Rnh1 PE=1 SV=1 - [RINI_MOUSE]	0	6	1	5	0	8	**1**	**19**	19.00	3.126E-03	49.8	✓			✓		(23)	
309	Q99K70	RRAGC	Ras-related GTP-binding protein C GN=Rragc PE=2 SV=1 - [RRAGC_MOUSE]	0	6	1	4	0	8	**1**	**18**	18.00	9.206E-03	44.1	✓			✓		(23)	
310	Q9CQX2	CYB5B	Cytochrome b5 type B GN=Cyb5b PE=1 SV=1 - [CYB5B_MOUSE]	1	7	0	5	0	5	**1**	**17**	17.00	2.019E-03	16.3	✓			✓		(26)	
311	Q61699-2	HS105	Isoform HSP105-beta of Heat shock protein 105 kDa GN=Hsph1 - [HS105_MOUSE]	0	19	3	10	0	21	**3**	**50**	16.67	1.132E-02	91.6	✓			✓		(5)(9)(23)	
312	Q8CI51	PDLI5	PDZ and LIM domain protein 5 GN=Pdlim5 PE=1 SV=4 - [PDLI5_MOUSE]	0	5	2	13	0	15	**2**	**33**	16.50	2.980E-02	63.3	✓			✓	✓	(1)(9)(23)(26)	
313	Q60854	SPB6	Serpin B6 GN=Serpinb6 PE=2 SV=1 - [SPB6_MOUSE]	0	5	1	5	0	6	**1**	**16**	16.00	4.472E-04	42.6	✓			✓		(26)	
314	Q61029-3	LAP2B	Isoform Epsilon of Lamina-associated polypeptide 2, isoforms beta/delta/epsilon/gamma GN=Tm	1	9	1	10	0	11	**2**	**30**	15.00	1.510E-04	46.0	✓			✓	✓	(26)	
315	P06151	LDHA	L-lactate dehydrogenase A chain GN=Ldha PE=1 SV=3 - [LDHA_MOUSE]	1	12	1	15	1	15	**3**	**42**	14.00	2.020E-04	36.5	✓			✓	✓	(6)(23)(24)(26)	(17)
316	Q61990	PCBP2	Poly(rC)-binding protein 2 GN=Pcbp2 PE=1 SV=1 - [PCBP2_MOUSE]	0	4	1	5	0	5	**1**	**14**	14.00	7.779E-04	38.2	✓			✓	✓	(5)(14)(26)	(17)
317	Q501J6	DDX17	Probable ATP-dependent RNA helicase DDX17 GN=Ddx17 PE=2 SV=1 - [DDX17_MOUSE]	0	4	0	4	1	5	**1**	**13**	13.00	1.058E-03	72.4	✓			✓	✓	(5)(9)(23)(26)	
318	A2AFJ1	A2AFJ1	Histone-binding protein RBBP7 GN=Rbbp7 PE=4 SV=1 - [A2AFJ1_MOUSE]	0	3	1	3	0	6	**1**	**12**	12.00	2.539E-02	46.9	✓			✓		(26)	
319	P16045	LEG1	Galectin-1 GN=Lgals1 PE=1 SV=3 - [LEG1_MOUSE]	1	32	2	25	3	13	**6**	**70**	11.67	1.870E-02	14.9			✓	✓		(23)	(17)
320	Q3U0V1	FUBP2	Far upstream element-binding protein 2 GN=Khsrp PE=1 SV=2 - [FUBP2_MOUSE]	1	18	2	19	2	17	**5**	**54**	10.80	1.647E-05	76.7	✓			✓		(14)(23)(26)	
321	Q9JIF0-3	ANM1	Isoform 3 of Protein arginine N-methyltransferase 1 GN=Prmt1 - [ANM1_MOUSE]	0	10	2	9	1	13	**3**	**32**	10.67	1.921E-03	39.6	✓			✓		(26)	(17)

				GlcNAz																
				Spectral Counts												Localization				
				Experiment 1		Experiment 2		Experiment 3		Sum										
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GalNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
322	Q9WUM4	COR1C	Coronin-1C GN=Coro1c PE=1 SV=2 - [COR1C_MOUSE]	0	6	2	8	0	6	**2**	**20**	10.00	3.126E-03	53.1	✓			✓		(14)(26)	
323	D3Z5M2	D3Z5M2	Protein Gm10110 GN=Gm10110 PE=4 SV=1 - [D3Z5M2_MOUSE]	0	6	2	5	0	8	**2**	**19**	9.50	6.859E-03	67.7				✓			
324	Q91V92	ACLY	ATP-citrate synthase GN=Acly PE=1 SV=1 - [ACLY_MOUSE]	1	2	0	3	0	4	**1**	**9**	9.00	1.613E-02	120	✓			✓		(9)(14)(23)(26)	(17)
325	Q11011	PSA	Puromycin-sensitive aminopeptidase GN=Npepps PE=1 SV=2 - [PSA_MOUSE]	0	3	1	3	0	3	**1**	**9**	9.00	1.324E-03	103	✓			✓		(5)(23)	
326	Q8BGQ7	SYAC	Alanine--tRNA ligase, cytoplasmic GN=Aars PE=1 SV=1 - [SYAC_MOUSE]	1	8	1	7	1	11	**3**	**26**	8.67	3.098E-03	107	✓			✓		(23)(26)	(17)
327	Q3UPL0-2	SC31A	Isoform 2 of Protein transport protein Sec31A GN=Sec31a - [SC31A_MOUSE]	1	8	2	8	0	10	**3**	**26**	8.67	9.640E-04	130	✓				✓	(5)(19)(26)	
328	Q791V5	MTCH2	Mitochondrial carrier homolog 2 GN=Mtch2 PE=1 SV=1 - [MTCH2_MOUSE]	1	5	1	6	0	6	**2**	**17**	8.50	4.472E-04	33.5	✓			✓		(23)	
329	P68254-2	1433T	Isoform 2 of 14-3-3 protein theta GN=Ywhaq - [1433T_MOUSE]	1	13	1	14	3	15	**5**	**42**	8.40	1.517E-04	27.7	✓			✓	✓	(5)(8)(9)(23)(26)	(17)
330	Q6IRU2	TPM4	Tropomyosin alpha-4 chain GN=Tpm4 PE=2 SV=3 - [TPM4_MOUSE]	1	8	1	8	1	9	**3**	**25**	8.33	2.526E-05	28.5	✓			✓		(9)(23)(26)	
331	Q8BGJ5	Q8BGJ5	MCG13402, isoform CRA_a GN=Ptbp1 PE=2 SV=1 - [Q8BGJ5_MOUSE]	0	7	1	9	2	8	**3**	**24**	8.00	1.017E-03	56.9	✓			✓		(26)	
332	A1BN54	A1BN54	Alpha actinin 1a GN=Actn1 PE=2 SV=1 - [A1BN54_MOUSE]	0	16	3	17	4	20	**7**	**53**	7.57	8.362E-04	103	✓			✓		(26)	
333	Q62523	ZYX	Zyxin GN=Zyx PE=1 SV=2 - [ZYX_MOUSE]	0	4	2	5	0	6	**2**	**15**	7.50	7.966E-03	60.5	✓			✓	✓	(1)(9)(23)(26)	
334	Q61024	ASNS	Asparagine synthetase [glutamine-hydrolyzing] GN=Asns PE=2 SV=3 - [ASNS_MOUSE]	0	19	3	17	4	16	**7**	**52**	7.43	5.486E-04	64.2	✓			✓		(23)(26)	
335	Q8BGD9	IF4B	Eukaryotic translation initiation factor 4B GN=Eif4b PE=1 SV=1 - [IF4B_MOUSE]	2	13	2	10	1	14	**5**	**37**	7.40	1.026E-03	68.8	✓			✓		(9)(26)	
336	Q921F2	TADBP	TAR DNA-binding protein 43 GN=Tardbp PE=1 SV=1 - [TADBP_MOUSE]	0	2	1	2	0	3	**1**	**7**	7.00	1.324E-02	44.5	✓			✓		(9)(14)(26)	
337	P14733	LMNB1	Lamin-B1 GN=Lmnb1 PE=1 SV=3 - [LMNB1_MOUSE]	0	2	1	2	0	3	**1**	**7**	7.00	1.324E-02	66.7	✓			✓	✓	(23)	
338	A2AL12	A2AL12	Heterogeneous nuclear ribonucleoprotein A3 GN=Hnrnpa3 PE=4 SV=1 - [A2AL12_MOUSE]	4	19	3	24	3	22	**10**	**65**	6.50	2.511E-04	34.5	✓			✓		(5)(26)	
339	P68510	1433F	14-3-3 protein eta GN=Ywhah PE=1 SV=2 - [1433F_MOUSE]	0	2	0	2	1	2	**1**	**6**	6.00	7.490E-03	28.2							
340	P17751	TPIS	Triosephosphate isomerase GN=Tpi1 PE=1 SV=4 - [TPIS_MOUSE]	2	11	3	10	1	14	**6**	**35**	5.83	1.921E-03	32.2	✓			✓		(5)(19)(23)(26)	(17)
341	Q8VDM4	PSMD2	26S proteasome non-ATPase regulatory subunit 2 GN=Psmd2 PE=1 SV=1 - [PSMD2_MOUSE]	0	6	3	5	0	6	**3**	**17**	5.67	1.145E-02	100	✓			✓		(19)(23)	
342	E9QAT0	E9QAT0	Fragile X mental retardation protein 1 homolog GN=Fmr1 PE=4 SV=1 - [E9QAT0_MOUSE]	1	4	1	3	0	4	**2**	**11**	5.50	3.126E-03	66.1							
343	P18760	COF1	Cofilin-1 GN=Cfl1 PE=1 SV=3 - [COF1_MOUSE]	3	5	2	11	1	14	**6**	**30**	5.00	4.179E-02	18.5	✓			✓	✓	(14)(19)(23)(26)	
344	P07742	RIR1	Ribonucleoside-diphosphate reductase large subunit GN=Rrm1 PE=1 SV=2 - [RIR1_MOUSE]	0	2	1	2	0	1	**1**	**5**	5.00	4.742E-02	90.2	✓			✓		(14)(23)(26)	
345	J3QPE8	J3QPE8	MCG16555 GN=Vdac3-ps1 PE=4 SV=1 - [J3QPE8_MOUSE]	4	11	1	10	2	12	**7**	**33**	4.71	1.193E-03	30.7	✓			✓	✓		
346	P61979-3	HNRPK	Isoform 3 of Heterogeneous nuclear ribonucleoprotein K GN=Hnrnpk - [HNRPK_MOUSE]	5	15	3	11	1	15	**9**	**41**	4.56	3.772E-03	48.5	✓			✓		(5)(8)(14)(23)(24)(26)	
347	E9Q7H5	E9Q7H5	Uncharacterized protein GN=Gm8991 PE=4 SV=1 - [E9Q7H5_MOUSE]	5	15	3	18	3	17	**11**	**50**	4.55	2.992E-04	32.6				✓		(5)	
348	G3UX26	G3UX26	Voltage-dependent anion-selective channel protein 2 (Fragment) GN=Vdac2 PE=4 SV=1 - [G3UX2	5	18	3	18	4	18	**12**	**54**	4.50	1.716E-05	30.4	✓			✓			
349	Q9CQ65	MTAP	S-methyl-5'-thioadenosine phosphorylase GN=Mtap PE=2 SV=1 - [MTAP_MOUSE]	2	12	3	13	3	11	**8**	**36**	4.50	1.510E-04	31.0	✓			✓		(23)(26)	(17)
350	Q9WVA4	TAGL2	Transgelin-2 GN=Tagln2 PE=1 SV=4 - [TAGL2_MOUSE]	0	3	2	3	0	3	**2**	**9**	4.50	2.490E-02	22.4	✓			✓		(23)(26)	
351	Q60749	KHDR1	KH domain-containing, RNA-binding, signal transduction-associated protein 1 GN=Khdrbs1 PE=1	1	6	1	4	1	3	**3**	**13**	4.33	1.944E-02	48.3	✓			✓		(9)(14)(26)	
352	P10107	ANXA1	Annexin A1 GN=Anxa1 PE=1 SV=2 - [ANXA1_MOUSE]	5	21	5	21	6	23	**16**	**65**	4.06	2.566E-05	38.7	✓			✓		(9)(26)	(17)
353	P08752	GNAI2	Guanine nucleotide-binding protein G(i) subunit alpha-2 GN=Gnai2 PE=1 SV=5 - [GNAI2_MOUSE	1	3	1	4	1	4	**3**	**11**	3.67	1.324E-03	40.5	✓				✓	(20)(26)	
354	P58252	EF2	Elongation factor 2 GN=Eef2 PE=1 SV=2 - [EF2_MOUSE]	7	21	4	18	7	26	**18**	**65**	3.61	3.501E-03	95.3	✓			✓		(5)(8)(9)(14)(23)(26)	(17)
355	P10605	CATB	Cathepsin B GN=Ctsb PE=1 SV=2 - [CATB_MOUSE]	1	4	1	5	2	5	**4**	**14**	3.50	2.111E-03	37.3					✓	(26)	(17)
356	P07356	ANXA2	Annexin A2 GN=Anxa2 PE=1 SV=2 - [ANXA2_MOUSE]	3	17	7	19	5	16	**15**	**52**	3.47	1.056E-03	38.7	✓			✓		(8)(9)(23)(26)	(17)
357	B7FAU9	B7FAU9	Filamin, alpha GN=Flna PE=4 SV=1 - [B7FAU9_MOUSE]	2	14	8	15	5	21	**15**	**50**	3.33	1.388E-02	280	✓			✓		(9)(26)	
358	P46935	NEDD4	E3 ubiquitin-protein ligase NEDD4 GN=Nedd4 PE=1 SV=3 - [NEDD4_MOUSE]	8	27	10	30	8	28	**26**	**85**	3.27	5.867E-05	103	✓			✓		(1)(20)(26)	
359	P16858	G3P	Glyceraldehyde-3-phosphate dehydrogenase GN=Gapdh PE=1 SV=2 - [G3P_MOUSE]	20	63	21	62	20	61	**61**	**186**	3.05	3.925E-07	35.8	✓			✓		(1)(2)(4)(6)(8)(9)(23)(24)(26)	

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Supplementary Table 3. Proteins identified using GalNAz enrichment. NIH 3T3 were treated in triplicate with either Ac_4GalNAz (200 μM, +) or Ac_4GlcNAc (200 μM, -) for 16 hours. At this time the cell lysates were subjected to CuAAC with alkyne-biotin, followed by enrichment with streptavidin beads and on-bead trypsinolysis. Labeled proteins were selected as those that were represented by at least 1 unique-peptide in each Ac_4GalNAz treated sample, a total of at least 3 spectral-counts from the same three samples, and at least a total of 3 times more spectral counts in the Ac_4GalNAz treated samples compared to Ac_4GlcNAc. Blue indicates proteins previously identified in O-GlcNAc proteomic studies, purple indicates proteins identified in both O-GlcNAc and O-linked mucin proteomic studies and red indicates proteins identified in only O-linked mucin proteomic studies. Novel proteins that were identified in this study are indicated in white.

				GalNAz Spectral Counts												Localization						
				Experiment 1		Experiment 2		Experiment 3		Sum												
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GlcNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
1	Q61191	HCFC1	Host cell factor 1 GN=Hcfc1 PE=1 SV=2 - [HCFC1_MOUSE]	0	40	0	30	0	34	**0**	**104**	N/A	2.829E-04	210	✓			✓	✓	(1)(2)(9)(13)(19)(20)(21)(22)(23)(24)(26)	
2	Q80X50-5	UBP2L	Isoform 5 of Ubiquitin-associated protein 2-like GN=Ubap2l - [UBP2L_MOUSE]	0	31	0	39	0	33	**0**	**103**	N/A	1.396E-04	117	✓				✓	(5)(19)(23)(26)	
3	Q80X50-2	UBP2L	Isoform 2 of Ubiquitin-associated protein 2-like GN=Ubap2l - [UBP2L_MOUSE]	0	30	0	38	0	32	**0**	**100**	N/A	1.568E-04	107	✓				✓	(5)(19)(23)(26)	
4	Q8K4Z5	SF3A1	Splicing factor 3A subunit 1 GN=Sf3a1 PE=1 SV=1 - [SF3A1_MOUSE]	0	27	0	31	0	32	**0**	**90**	N/A	3.964E-05	88.5	✓				✓	(9)(23)(26)	(17)
5	Q6XLQ8	Q6XLQ8	Calumenin GN=Calu PE=2 SV=1 - [Q6XLQ8_MOUSE]	0	25	0	29	0	28	**0**	**82**	N/A	2.214E-05	37.1		✓			✓		
6	O35887	CALU	Calumenin GN=Calu PE=1 SV=1 - [CALU_MOUSE]	0	25	0	24	0	24	**0**	**73**	N/A	2.110E-07	37.0		✓			✓	(9)(23)	(16)(17)
7	Q7TQH0-2	ATX2L	Isoform 2 of Ataxin-2-like protein GN=Atxn2l - [ATX2L_MOUSE]	0	25	0	23	0	24	**0**	**72**	N/A	2.002E-06	113	✓			✓	✓	(19)(23)	
8	Q9DBR7	MYPT1	Protein phosphatase 1 regulatory subunit 12A GN=Ppp1r12a PE=1 SV=2 - [MYPT1_MOUSE]	0	22	0	22	0	28	**0**	**72**	N/A	2.764E-04	115	✓			✓	✓	(1)(5)(19)(20)(26)	
9	Q6PB44-2	PTN23	Isoform 2 of Tyrosine-protein phosphatase non-receptor type 23 GN=Ptpn23 - [PTN23_MOU	0	25	0	25	0	22	**0**	**72**	N/A	1.788E-05	185	✓				✓		
10	Q8CGF7	TCRG1	Transcription elongation regulator 1 GN=Tcerg1 PE=1 SV=2 - [TCRG1_MOUSE]	0	24	0	23	0	24	**0**	**71**	N/A	2.358E-07	124	✓				✓	(19)(23)	
11	Q60737	CSK21	Casein kinase II subunit alpha GN=Csnk2a1 PE=1 SV=2 - [CSK21_MOUSE]	0	23	0	22	0	25	**0**	**70**	N/A	1.213E-05	45.1	✓				✓	(5)	
12	Q8CH18	CCAR1	Cell division cycle and apoptosis regulator protein 1 GN=Ccar1 PE=1 SV=1 - [CCAR1_MOUS	0	21	0	23	0	25	**0**	**69**	N/A	3.748E-05	132	✓				✓	(9)(19)(23)	
13	Q3TLH4-5	PRC2C	Isoform 5 of Protein PRRC2C GN=Prrc2c - [PRC2C_MOUSE]	0	19	0	19	0	30	**0**	**68**	N/A	3.479E-03	302	✓				✓	(19)(23)(26)	
14	G3X928	G3X928	SEC23-interacting protein GN=Sec23ip PE=4 SV=1 - [G3X928_MOUSE]	0	20	0	24	0	23	**0**	**67**	N/A	4.936E-05	111	✓			✓	✓	(2)	
15	O88532	ZFR	Zinc finger RNA-binding protein GN=Zfr PE=1 SV=2 - [ZFR_MOUSE]	0	22	0	21	0	23	**0**	**66**	N/A	2.833E-06	117	✓				✓	(1)(5)(12)(13)(19)(20)(26)	
16	O70318	E41L2	Band 4.1-like protein 2 GN=Epb41l2 PE=1 SV=2 - [E41L2_MOUSE]	0	17	0	22	0	22	**0**	**61**	N/A	2.591E-04	110	✓			✓	✓	(20)(23)	
17	Q8R317-2	UBQL1	Isoform 2 of Ubiquilin-1 GN=Ubqln1 - [UBQL1_MOUSE]	0	19	0	22	0	19	**0**	**60**	N/A	3.688E-05	58.6	✓				✓		
18	Q9JKR6	HYOU1	Hypoxia up-regulated protein 1 GN=Hyou1 PE=1 SV=1 - [HYOU1_MOUSE]	0	23	0	22	0	14	**0**	**59**	N/A	2.307E-03	111		✓				(26)	(16)(17)
19	Q8R317	UBQL1	Ubiquilin-1 GN=Ubqln1 PE=1 SV=1 - [UBQL1_MOUSE]	0	18	0	22	0	18	**0**	**58**	N/A	1.315E-04	61.9	✓				✓		
20	P98078	DAB2	Disabled homolog 2 GN=Dab2 PE=1 SV=2 - [DAB2_MOUSE]	0	21	0	15	0	22	**0**	**58**	N/A	9.021E-04	82.3	✓			✓	✓		
21	Q7M6Y3-6	PICA	Isoform 6 of Phosphatidylinositol-binding clathrin assembly protein GN=Picalm - [PICA_MOU	0	15	0	26	0	14	**0**	**55**	N/A	8.846E-03	70.5	✓				✓		(17)
22	Q80U93	NU214	Nuclear pore complex protein Nup214 GN=Nup214 PE=1 SV=2 - [NU214_MOUSE]	0	18	0	13	0	22	**0**	**53**	N/A	2.462E-03	213	✓				✓	(1)(2)(19)(20)(23)(26)	
23	Q9QZM0	UBQL2	Ubiquilin-2 GN=Ubqln2 PE=1 SV=2 - [UBQL2_MOUSE]	0	15	0	17	0	19	**0**	**51**	N/A	1.239E-04	67.3	✓				✓		
24	Q91ZX7	LRP1	Prolow-density lipoprotein receptor-related protein 1 GN=Lrp1 PE=1 SV=1 - [LRP1_MOUSE]	0	13	0	22	0	14	**0**	**49**	N/A	4.579E-03	504			✓				(15)(16)(17)
25	Q80ZX0	Q80ZX0	Protein Sec24b GN=Sec24b PE=2 SV=1 - [Q80ZX0_MOUSE]	0	15	0	19	0	15	**0**	**49**	N/A	2.550E-04	136	✓				✓	(2)	
26	Q3TN34	Q3TN34	JRAB GN=Micall2 PE=2 SV=1 - [Q3TN34_MOUSE]	0	15	0	18	0	15	**0**	**48**	N/A	8.922E-05	108	✓				✓	(26)	
27	E9Q4Q2	E9Q4Q2	Splicing factor 1 GN=Sf1 PE=4 SV=1 - [E9Q4Q2_MOUSE]	0	12	0	19	0	17	**0**	**48**	N/A	1.541E-03	59.7	✓				✓		
28	F6TQN9	F6TQN9	Disabled homolog 2 (Fragment) GN=Dab2 PE=4 SV=1 - [F6TQN9_MOUSE]	0	18	0	10	0	18	**0**	**46**	N/A	4.535E-03	67.8	✓				✓		
29	A2AMY5	A2AMY5	Ubiquitin-associated protein 2 GN=Ubap2 PE=4 SV=1 - [A2AMY5_MOUSE]	0	17	0	13	0	14	**0**	**44**	N/A	2.588E-04	118	✓			✓	✓		
30	Q8BFR4	GNS	N-acetylglucosamine-6-sulfatase GN=Gns PE=2 SV=1 - [GNS_MOUSE]	0	15	0	14	0	14	**0**	**43**	N/A	1.749E-06	61.1		✓				(9)(23)	(17)
31	P70699	LYAG	Lysosomal alpha-glucosidase GN=Gaa PE=1 SV=2 - [LYAG_MOUSE]	0	11	0	16	0	16	**0**	**43**	N/A	1.005E-03	106		✓					(16)(17)

				GalNAz																
				Spectral Counts																
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization					
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GlcNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
32	P10852	4F2	4F2 cell-surface antigen heavy chain GN=Slc3a2 PE=1 SV=1 - [4F2_MOUSE]	0	12	0	16	0	15	**0**	**43**	N/A	2.832E-04	58.3			✓		✓		(10)(17)
33	Q8VIJ6	SFPQ	Splicing factor, proline- and glutamine-rich GN=Sfpq PE=1 SV=1 - [SFPQ_MOUSE]	0	10	0	18	0	14	**0**	**42**	N/A	3.738E-03	75.4	✓				✓	(5)(9)(19)(20)(23)(24)	(17)
34	Q63850	NUP62	Nuclear pore glycoprotein p62 GN=Nup62 PE=1 SV=2 - [NUP62_MOUSE]	0	12	0	15	0	15	**0**	**42**	N/A	1.510E-04	53.2	✓				✓	(2)(9)(19)(23)(26)	(17)
35	G3UWA6	G3UWA6	4F2 cell-surface antigen heavy chain GN=Slc3a2 PE=4 SV=1 - [G3UWA6_MOUSE]	0	11	0	16	0	14	**0**	**41**	N/A	7.120E-04	62.2			✓		✓		(10)
36	H3BKM0	H3BKM0	AP-2 complex subunit beta GN=Ap2b1 PE=4 SV=1 - [H3BKM0_MOUSE]	0	12	0	14	0	15	**0**	**41**	N/A	1.012E-04	101	✓						
37	Q5SUT0	Q5SUT0	Ewing sarcoma breakpoint region 1 GN=Ewsr1 PE=2 SV=1 - [Q5SUT0_MOUSE]	0	12	0	15	0	13	**0**	**40**	N/A	1.116E-04	64.9	✓				✓	(26)	
38	Q60865	CAPR1	Caprin-1 GN=Caprin1 PE=1 SV=2 - [CAPR1_MOUSE]	0	14	0	13	0	13	**0**	**40**	N/A	2.334E-06	78.1	✓			✓	✓	(19)(23)(26)	
39	B1ATZ0	B1ATZ0	HGF-regulated tyrosine kinase substrate GN=Hgs PE=4 SV=1 - [B1ATZ0_MOUSE]	0	13	0	13	0	14	**0**	**40**	N/A	2.334E-06	85.7	✓				✓		
40	E9Q3G8	E9Q3G8	Protein Nup153 GN=Nup153 PE=4 SV=1 - [E9Q3G8_MOUSE]	0	13	0	12	0	14	**0**	**39**	N/A	2.304E-05	152	✓				✓	(2)(12)(20)	
41	Q9DBG5	PLIN3	Perilipin-3 GN=Plin3 PE=1 SV=1 - [PLIN3_MOUSE]	0	8	0	14	0	17	**0**	**39**	N/A	7.966E-03	47.2	✓			✓	✓	(1)(9)(20)(23)	
42	G3X972	G3X972	Protein Sec24c GN=Sec24c PE=4 SV=1 - [G3X972_MOUSE]	0	12	0	14	0	12	**0**	**38**	N/A	4.520E-05	119	✓			✓	✓	(2)	
43	Q8CFQ9	Q8CFQ9	Fusion, derived from t(12;16) malignant liposarcoma (Human) GN=Fus PE=2 SV=1 - [Q8CFQ9	0	12	0	12	0	14	**0**	**38**	N/A	4.520E-05	52.6	✓				✓		
44	Q8C2Q3	RBM14	RNA-binding protein 14 GN=Rbm14 PE=1 SV=1 - [RBM14_MOUSE]	0	8	0	17	0	12	**0**	**37**	N/A	9.055E-03	69.4	✓				✓	(1)(9)(20)(23)(24)	
45	Q8VDM6	HNRL1	Heterogeneous nuclear ribonucleoprotein U-like protein 1 GN=Hnrnpul1 PE=1 SV=1 - [HNRL	0	7	0	15	0	15	**0**	**37**	N/A	9.844E-03	95.9	✓				✓		
46	Q9WVG6-2	CARM1	Isoform 2 of Histone-arginine methyltransferase CARM1 GN=Carm1 - [CARM1_MOUSE]	0	12	0	12	0	12	**0**	**36**	N/A	0.000E+00	63.4	✓			✓	✓	(5)(9)(19)(23)	
47	Q8BL80	RHG22	Rho GTPase-activating protein 22 GN=Arhgap22 PE=1 SV=2 - [RHG22_MOUSE]	0	12	0	10	0	14	**0**	**36**	N/A	4.841E-04	77.7	✓						
48	O70305-2	ATX2	Isoform 2 of Ataxin-2 GN=Atxn2 - [ATX2_MOUSE]	0	10	0	15	0	11	**0**	**36**	N/A	1.419E-03	129	✓			✓	✓		
49	P54728	RD23B	UV excision repair protein RAD23 homolog B GN=Rad23b PE=1 SV=2 - [RD23B_MOUSE]	0	12	0	13	0	10	**0**	**35**	N/A	1.887E-04	43.5	✓				✓	(5)(23)	(17)
50	Q9D824-4	FIP1	Isoform 4 of Pre-mRNA 3'-end-processing factor FIP1 GN=Fip1l1 - [FIP1_MOUSE]	0	10	0	13	0	11	**0**	**34**	N/A	2.114E-04	55.8	✓					(23)	
51	P59326	YTHD1	YTH domain family protein 1 GN=Ythdf1 PE=2 SV=1 - [YTHD1_MOUSE]	0	12	0	10	0	11	**0**	**33**	N/A	4.471E-05	60.8	✓				✓	(19)	
52	Q8BYK6	YTHD3	YTH domain family protein 3 GN=Ythdf3 PE=1 SV=2 - [YTHD3_MOUSE]	0	9	0	14	0	10	**0**	**33**	N/A	1.971E-03	63.9	✓				✓	(1)(19)(20)	
53	Q6PFD9	Q6PFD9	Nucleoporin 98 GN=Nup98 PE=1 SV=1 - [Q6PFD9_MOUSE]	0	9	0	10	0	13	**0**	**32**	N/A	8.903E-04	125	✓				✓	(20)	
54	Q9WV92-3	E41L3	Isoform 3 of Band 4.1-like protein 3 GN=Epb41l3 - [E41L3_MOUSE]	0	8	0	10	0	14	**0**	**32**	N/A	3.772E-03	102	✓				✓		
55	Q6NXL1	Q6NXL1	Protein Sec24d GN=Sec24d PE=2 SV=1 - [Q6NXL1_MOUSE]	0	8	0	12	0	11	**0**	**31**	N/A	1.006E-03	113	✓				✓	(2)	
56	Q99P91	GPNMB	Transmembrane glycoprotein NMB GN=Gpnmb PE=1 SV=2 - [GPNMB_MOUSE]	0	8	0	11	0	12	**0**	**31**	N/A	1.006E-03	63.6			✓		✓		
57	Q8BH97	RCN3	Reticulocalbin-3 GN=Rcn3 PE=2 SV=1 - [RCN3_MOUSE]	0	12	0	8	0	10	**0**	**30**	N/A	9.781E-04	38.0		✓			✓		(17)
58	P27546-2	MAP4	Isoform 2 of Microtubule-associated protein 4 GN=Map4 - [MAP4_MOUSE]	0	10	0	10	0	10	**0**	**30**	N/A	0.000E+00	117	✓			✓	✓	(9)(19)(23)(26)	
59	Q9R0E1	PLOD3	Procollagen-lysine,2-oxoglutarate 5-dioxygenase 3 GN=Plod3 PE=1 SV=1 - [PLOD3_MOUSE	0	12	0	12	0	6	**0**	**30**	N/A	7.490E-03	84.9		✓					
60	Q9Z1A1	Q9Z1A1	Protein Tfg GN=Tfg PE=2 SV=1 - [Q9Z1A1_MOUSE]	0	11	0	8	0	11	**0**	**30**	N/A	5.620E-04	43.0	✓				✓		
61	Q9WU78	PDC6I	Programmed cell death 6-interacting protein GN=Pdcd6ip PE=1 SV=3 - [PDC6I_MOUSE]	0	6	0	11	0	13	**0**	**30**	N/A	8.624E-03	96.0	✓			✓	✓		
62	Q04857	CO6A1	Collagen alpha-1(VI) chain GN=Col6a1 PE=2 SV=1 - [CO6A1_MOUSE]	0	7	0	11	0	11	**0**	**29**	N/A	1.921E-03	108		✓					(17)
63	P40124	CAP1	Adenylyl cyclase-associated protein 1 GN=Cap1 PE=1 SV=4 - [CAP1_MOUSE]	0	11	0	9	0	9	**0**	**29**	N/A	1.315E-04	51.5	✓			✓	✓	(9)(23)(26)	
64	Q3UEB3-3	PUF60	Isoform 3 of Poly(U)-binding-splicing factor PUF60 GN=Puf60 - [PUF60_MOUSE]	0	7	0	12	0	10	**0**	**29**	N/A	2.651E-03	54.0	✓					(9)(23)	
65	Q8VCF0	MAVS	Mitochondrial antiviral-signaling protein GN=Mavs PE=1 SV=1 - [MAVS_MOUSE]	0	9	0	11	0	9	**0**	**29**	N/A	1.315E-04	53.4	✓			✓	✓	(5)(9)(20)(23)	
66	Q8K2K6-3	AGFG1	Isoform 3 of Arf-GAP domain and FG repeat-containing protein 1 GN=Agfg1 - [AGFG1_MOU	0	8	0	11	0	9	**0**	**28**	N/A	4.511E-04	55.0	✓					(9)(19)(23)	
67	Q91YT7	Q91YT7	Protein Ythdf2 GN=Ythdf2 PE=2 SV=1 - [Q91YT7_MOUSE]	0	9	0	9	0	10	**0**	**28**	N/A	9.679E-06	62.2	✓				✓		
68	Q62165	DAG1	Dystroglycan GN=Dag1 PE=1 SV=4 - [DAG1_MOUSE]	0	7	0	9	0	11	**0**	**27**	N/A	1.462E-03	96.8			✓			(23)	(15)(16)(17)
69	Q62351	TFR1	Transferrin receptor protein 1 GN=Tfrc PE=1 SV=1 - [TFR1_MOUSE]	0	12	0	11	0	4	**0**	**27**	N/A	2.325E-02	85.7			✓				(10)(16)
70	Q8R4X3	RBM12	RNA-binding protein 12 GN=Rbm12 PE=1 SV=3 - [RBM12_MOUSE]	0	7	0	10	0	10	**0**	**27**	N/A	8.438E-04	103	✓					(9)(23)	
71	Q8K4Q8	COL12	Collectin-12 GN=Colec12 PE=1 SV=1 - [COL12_MOUSE]	0	9	0	9	0	9	**0**	**27**	N/A	0.000E+00	81.3			✓				
72	Q3UF95	Q3UF95	Large proline-rich protein BAG6 GN=Bag6 PE=2 SV=1 - [Q3UF95_MOUSE]	0	9	0	9	0	9	**0**	**27**	N/A	0.000E+00	119	✓						

				GalNAz																
				Spectral Counts																
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization				
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GlcNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
73	Q02788	CO6A2	Collagen alpha-2(VI) chain GN=Col6a2 PE=2 SV=3 - [CO6A2_MOUSE]	0	9	0	8	0	9	**0**	**26**	N/A	1.300E-05	110		✓				(26)	
74	Q5F2E7	NUFP2	Nuclear fragile X mental retardation-interacting protein 2 GN=Nufip2 PE=1 SV=1 - [NUFP2_M	0	10	0	9	0	7	**0**	**26**	N/A	6.012E-04	75.6	✓					(1)(20)	
75	P01897	HA1L	H-2 class I histocompatibility antigen, L-D alpha chain GN=H2-L PE=1 SV=2 - [HA1L_MOUSE	0	10	0	8	0	8	**0**	**26**	N/A	2.020E-04	40.7			✓		✓		
76	Q640N1	AEBP1	Adipocyte enhancer-binding protein 1 GN=Aebp1 PE=1 SV=1 - [AEBP1_MOUSE]	0	8	0	8	0	9	**0**	**25**	N/A	1.520E-05	128		✓					(17)
77	P83741-4	WNK1	Isoform 4 of Serine/threonine-protein kinase WNK1 GN=Wnk1 - [WNK1_MOUSE]	0	8	0	7	0	10	**0**	**25**	N/A	6.996E-04	225	✓				✓		(5)(9)(13)(19)(23)
78	A2ATI9	A2ATI9	Golgi reassembly stacking protein 2 GN=Gorasp2 PE=4 SV=1 - [A2ATI9_MOUSE]	0	8	0	8	0	9	**0**	**25**	N/A	1.520E-05	45.0			✓		✓		(12)	
79	F8VQJ3	F8VQJ3	Laminin subunit gamma-1 GN=Lamc1 PE=4 SV=1 - [F8VQJ3_MOUSE]	0	7	0	13	0	5	**0**	**25**	N/A	2.566E-02	177		✓					
80	P01899	HA11	H-2 class I histocompatibility antigen, D-B alpha chain GN=H2-D1 PE=1 SV=2 - [HA11_MOU	0	10	0	8	0	7	**0**	**25**	N/A	6.996E-04	40.8			✓		✓		
81	Q9QX47-2	SON	Isoform 2 of Protein SON GN=Son - [SON_MOUSE]	0	6	0	8	0	10	**0**	**24**	N/A	2.278E-03	230	✓					(9)(23)	
82	P04095	PR2C2	Prolactin-2C2 GN=Prl2c2 PE=1 SV=1 - [PR2C2_MOUSE]	0	8	0	7	0	9	**0**	**24**	N/A	1.573E-04	25.4		✓			✓		
83	Q5SUH7	Q5SUH7	Clathrin interactor 1 GN=Clint1 PE=2 SV=1 - [Q5SUH7_MOUSE]	0	9	0	10	0	5	**0**	**24**	N/A	6.352E-03	67.7	✓				✓		
84	P47930	FOSL2	Fos-related antigen 2 GN=Fosl2 PE=2 SV=2 - [FOSL2_MOUSE]	0	10	0	5	0	9	**0**	**24**	N/A	6.352E-03	35.3	✓				✓		
85	D3YUW8	D3YUW8	Pogo transposable element with ZNF domain GN=Pogz PE=4 SV=1 - [D3YUW8_MOUSE]	0	6	0	10	0	8	**0**	**24**	N/A	2.278E-03	145	✓				✓		
86	Q9R1Q9	VAS1	V-type proton ATPase subunit S1 GN=Atp6ap1 PE=1 SV=1 - [VAS1_MOUSE]	0	7	0	9	0	7	**0**	**23**	N/A	3.264E-04	51.0		✓					(17)
87	O08795	GLU2B	Glucosidase 2 subunit beta GN=Prkcsh PE=1 SV=1 - [GLU2B_MOUSE]	0	6	0	8	0	9	**0**	**23**	N/A	9.640E-04	58.8		✓				(20)	(16)
88	Q8BTS4	NUP54	Nuclear pore complex protein Nup54 GN=Nup54 PE=1 SV=1 - [NUP54_MOUSE]	0	6	0	11	0	6	**0**	**23**	N/A	1.003E-02	55.7	✓					(2)(9)(23)(24)	
89	Q91YD3	DCP1A	mRNA-decapping enzyme 1A GN=Dcp1a PE=1 SV=1 - [DCP1A_MOUSE]	0	8	0	7	0	8	**0**	**23**	N/A	2.117E-05	65.2	✓					(1)(9)(23)	
90	P29533	VCAM1	Vascular cell adhesion protein 1 GN=Vcam1 PE=1 SV=1 - [VCAM1_MOUSE]	0	5	0	11	0	7	**0**	**23**	N/A	1.219E-02	81.3			✓				
91	Q3UPH1	PRRC1	Protein PRRC1 GN=Prrc1 PE=2 SV=1 - [PRRC1_MOUSE]	0	6	0	7	0	9	**0**	**22**	N/A	1.143E-03	46.3		✓			✓	(19)(26)	(17)
92	Q3U1M7	Q3U1M7	Protein Zmynd8 GN=Zmynd8 PE=2 SV=1 - [Q3U1M7_MOUSE]	0	4	0	8	0	10	**0**	**22**	N/A	1.417E-02	130	✓						
93	P37889-2	FBLN2	Isoform 2 of Fibulin-2 GN=Fbln2 - [FBLN2_MOUSE]	0	7	0	6	0	8	**0**	**21**	N/A	2.655E-04	126		✓					(16)
94	P11688	ITA5	Integrin alpha-5 GN=Itga5 PE=1 SV=3 - [ITA5_MOUSE]	0	7	0	7	0	7	**0**	**21**	N/A	0.000E+00	115			✓				(10)(16)
95	Q9CZR2	NALD2	N-acetylated-alpha-linked acidic dipeptidase 2 GN=Naalad2 PE=1 SV=2 - [NALD2_MOUSE]	0	7	0	6	0	8	**0**	**21**	N/A	2.655E-04	82.7		✓					
96	Q8BHN3	GANAB	Neutral alpha-glucosidase AB GN=Ganab PE=1 SV=1 - [GANAB_MOUSE]	0	7	0	7	0	7	**0**	**21**	N/A	0.000E+00	107		✓					
97	Q6P4T3	Q6P4T3	Eyes absent 3 homolog (Drosophila) GN=Eya3 PE=2 SV=1 - [Q6P4T3_MOUSE]	0	7	0	7	0	7	**0**	**21**	N/A	0.000E+00	57.8	✓				✓		
98	Q8K3Z9	PO121	Nuclear envelope pore membrane protein POM 121 GN=Pom121 PE=1 SV=2 - [PO121_MO	0	9	0	3	0	8	**0**	**20**	N/A	2.292E-02	121	✓				✓	(1)	
99	Q91VZ6	SMAP1	Stromal membrane-associated protein 1 GN=Smap1 PE=1 SV=1 - [SMAP1_MOUSE]	0	6	0	8	0	6	**0**	**20**	N/A	5.620E-04	47.6	✓						
100	E9QAR6	E9QAR6	Protein Zfp384 GN=Zfp384 PE=4 SV=1 - [E9QAR6_MOUSE]	0	7	0	5	0	8	**0**	**20**	N/A	1.641E-03	61.7	✓						
101	E9Q7W0	E9Q7W0	Recombining-binding protein suppressor of hairless GN=Rbpj PE=4 SV=1 - [E9Q7W0_MOUS	0	5	0	7	0	8	**0**	**20**	N/A	1.641E-03	54.3	✓				✓		
102	Q9DBH5	LMAN2	Vesicular integral-membrane protein VIP36 GN=Lman2 PE=2 SV=2 - [LMAN2_MOUSE]	0	4	0	8	0	7	**0**	**19**	N/A	6.214E-03	40.4		✓					(17)
103	Q61187	TS101	Tumor susceptibility gene 101 protein GN=Tsg101 PE=1 SV=2 - [TS101_MOUSE]	0	5	0	6	0	8	**0**	**19**	N/A	1.991E-03	44.1	✓					(23)	
104	A2AJ72	A2AJ72	Far upstream element (FUSE) binding protein 3 GN=Fubp3 PE=4 SV=1 - [A2AJ72_MOUSE]	0	5	0	7	0	7	**0**	**19**	N/A	6.852E-04	61.4	✓						
105	Q5SFM8-2	RBM27	Isoform 2 of RNA-binding protein 27 GN=Rbm27 - [RBM27_MOUSE]	0	7	0	4	0	7	**0**	**18**	N/A	3.883E-03	113	✓				✓	(9)(19)(23)	
106	E9Q5E0	E9Q5E0	Myocyte-specific enhancer factor 2D GN=Mef2d PE=4 SV=1 - [E9Q5E0_MOUSE]	0	5	0	7	0	6	**0**	**18**	N/A	4.841E-04	54.1	✓				✓		
107	P16675	PPGB	Lysosomal protective protein GN=Ctsa PE=1 SV=1 - [PPGB_MOUSE]	0	5	0	7	0	5	**0**	**17**	N/A	1.051E-03	53.8		✓					(17)
108	Q61576	FKB10	Peptidyl-prolyl cis-trans isomerase FKBP10 GN=Fkbp10 PE=1 SV=2 - [FKB10_MOUSE]	0	6	0	8	0	3	**0**	**17**	N/A	1.754E-02	64.7		✓					(16)
109	P09055	ITB1	Integrin beta-1 GN=Itgb1 PE=1 SV=1 - [ITB1_MOUSE]	0	4	0	7	0	6	**0**	**17**	N/A	3.016E-03	88.2			✓				(10)(16)
110	Q8CHY6	P66A	Transcriptional repressor p66 alpha GN=Gatad2a PE=1 SV=2 - [P66A_MOUSE]	0	4	0	8	0	5	**0**	**17**	N/A	9.206E-03	67.3	✓					(1)(12)(20)	
111	Q8R332-4	NUPL1	Isoform 4 of Nucleoporin p58/p45 GN=Nupl1 - [NUPL1_MOUSE]	0	5	0	8	0	4	**0**	**17**	N/A	9.206E-03	54.0	✓						
112	Q3UGN9	Q3UGN9	Signal transducing adapter molecule 1 GN=Stam PE=2 SV=1 - [Q3UGN9_MOUSE]	0	6	0	7	0	4	**0**	**17**	N/A	3.016E-03	51.1	✓						
113	G3UWD2	G3UWD2	Runt related transcription factor 1, isoform CRA_c GN=Runx1 PE=4 SV=1 - [G3UWD2_MOUS	0	4	0	4	0	9	**0**	**17**	N/A	2.728E-02	48.6	✓						
114	Q920A5	RISC	Retinoid-inducible serine carboxypeptidase GN=Scpep1 PE=2 SV=2 - [RISC_MOUSE]	0	3	0	8	0	5	**0**	**16**	N/A	2.138E-02	50.9		✓					(17)

				GalNAz																	
				Spectral Counts																	
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization					
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GlcNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
115	Q6NZN0-5	RBM26	Isoform 5 of RNA-binding protein 26 GN=Rbm26 - [RBM26_MOUSE]	0	6	0	5	0	5	**0**	**16**	N/A	8.922E-05	111	✓				✓	(9)(19)(23)	
116	Q501J7-2	PHAR4	Isoform 2 of Phosphatase and actin regulator 4 GN=Phactr4 - [PHAR4_MOUSE]	0	6	0	5	0	5	**0**	**16**	N/A	8.922E-05	73.4	✓					(23)	
117	P31230	AIMP1	Aminoacyl tRNA synthase complex-interacting multifunctional protein 1 GN=Aimp1 PE=1 SV	0	3	0	8	0	5	**0**	**16**	N/A	2.138E-02	34.0			✓	✓	✓	(1)	
118	G5E8J9	G5E8J9	SCY1-like protein 2 GN=Scyl2 PE=4 SV=1 - [G5E8J9_MOUSE]	0	5	0	7	0	4	**0**	**16**	N/A	3.772E-03	103			✓				
119	Q99NB8	UBQL4	Ubiquilin-4 GN=Ubqln4 PE=1 SV=1 - [UBQL4_MOUSE]	0	5	0	6	0	5	**0**	**16**	N/A	8.922E-05	63.5	✓			✓	✓		
120	Q99LI5	ZN281	Zinc finger protein 281 GN=Znf281 PE=1 SV=1 - [ZN281_MOUSE]	0	3	0	7	0	6	**0**	**16**	N/A	1.135E-02	96.6	✓						
121	O70494-2	SP3	Isoform 2 of Transcription factor Sp3 GN=Sp3 - [SP3_MOUSE]	0	5	0	5	0	6	**0**	**16**	N/A	8.922E-05	78.3	✓				✓		
122	Q9JLV1	BAG3	BAG family molecular chaperone regulator 3 GN=Bag3 PE=1 SV=2 - [BAG3_MOUSE]	0	4	0	4	0	7	**0**	**15**	N/A	7.490E-03	61.8	✓			✓	✓	(9)(23)(26)	(17)
123	P27046	MA2A1	Alpha-mannosidase 2 GN=Man2a1 PE=1 SV=2 - [MA2A1_MOUSE]	0	5	0	6	0	4	**0**	**15**	N/A	9.781E-04	132			✓				(16)(17)
124	Q6NXI6-2	RPRD2	Isoform 2 of Regulation of nuclear pre-mRNA domain-containing protein 2 GN=Rprd2 - [RPRI	0	5	0	5	0	5	**0**	**15**	N/A	0.000E+00	151	✓					(9)(23)	
125	P28659-2	CELF1	Isoform 2 of CUGBP Elav-like family member 1 GN=Celf1 - [CELF1_MOUSE]	0	4	0	6	0	5	**0**	**15**	N/A	9.781E-04	51.6	✓					(9)(23)	
126	Q8CHS8	VP37A	Vacuolar protein sorting-associated protein 37A GN=Vps37a PE=2 SV=1 - [VP37A_MOUSE]	0	4	0	4	0	7	**0**	**15**	N/A	7.490E-03	44.4	✓						
127	E9Q1T9	E9Q1T9	Exportin-2 GN=Cse1l PE=4 SV=1 - [E9Q1T9_MOUSE]	0	6	0	3	0	6	**0**	**15**	N/A	7.490E-03	104	✓						
128	P10493	NID1	Nidogen-1 GN=Nid1 PE=1 SV=2 - [NID1_MOUSE]	0	4	0	6	0	4	**0**	**14**	N/A	2.192E-03	137		✓					(7)(15)(16)(17)
129	P11438	LAMP1	Lysosome-associated membrane glycoprotein 1 GN=Lamp1 PE=1 SV=2 - [LAMP1_MOUSE]	0	4	0	5	0	5	**0**	**14**	N/A	1.510E-04	43.8		✓			✓	(9)(23)	(3)(15)(16)
130	Q91YQ5	RPN1	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 1 GN=Rpn1 PE=2 SV	0	2	0	7	0	5	**0**	**14**	N/A	3.253E-02	68.5			✓			(9)(23)	(16)
131	P11087-2	CO1A1	Isoform 2 of Collagen alpha-1(I) chain GN=Col1a1 - [CO1A1_MOUSE]	0	4	0	7	0	3	**0**	**14**	N/A	1.780E-02	118		✓				(26)	(16)
132	Q4PZA2-3	ECE1	Isoform C of Endothelin-converting enzyme 1 GN=Ece1 - [ECE1_MOUSE]	0	6	0	5	0	3	**0**	**14**	N/A	6.122E-03	85.4			✓				
133	K3W4Q8	K3W4Q8	Basigin GN=Bsg PE=4 SV=1 - [K3W4Q8_MOUSE]	0	5	0	6	0	3	**0**	**14**	N/A	6.122E-03	24.1			✓				
134	P97863-3	NFIB	Isoform 3 of Nuclear factor 1 B-type GN=Nfib - [NFIB_MOUSE]	0	4	0	3	0	7	**0**	**14**	N/A	1.780E-02	47.4	✓						
135	E9QKL6	E9QKL6	Interferon-activable protein 204 GN=Ifi204 PE=4 SV=1 - [E9QKL6_MOUSE]	0	4	0	6	0	4	**0**	**14**	N/A	2.192E-03	69.4	✓						
136	Q9R045	ANGL2	Angiopoietin-related protein 2 GN=Angptl2 PE=2 SV=2 - [ANGL2_MOUSE]	0	3	0	7	0	3	**0**	**13**	N/A	3.138E-02	57.1		✓					
137	Q00493	CBPE	Carboxypeptidase E GN=Cpe PE=1 SV=2 - [CBPE_MOUSE]	0	3	0	5	0	5	**0**	**13**	N/A	2.890E-03	53.2		✓					
138	Q99LA2	Q99LA2	Protein Zfp207 GN=Zfp207 PE=2 SV=1 - [Q99LA2_MOUSE]	0	3	0	5	0	5	**0**	**13**	N/A	2.890E-03	49.8	✓				✓		
139	E9Q7C1	E9Q7C1	Mediator of RNA polymerase II transcription subunit 15 GN=Med15 PE=4 SV=1 - [E9Q7C1_M	0	6	0	2	0	5	**0**	**13**	N/A	2.265E-02	82.5	✓				✓		
140	Q9Z1F9	SAE2	SUMO-activating enzyme subunit 2 GN=Uba2 PE=2 SV=1 - [SAE2_MOUSE]	0	5	0	4	0	3	**0**	**12**	N/A	2.278E-03	70.5	✓			✓	✓	(26)	
141	Q8R180	ERO1A	ERO1-like protein alpha GN=Ero1l PE=1 SV=2 - [ERO1A_MOUSE]	0	3	0	4	0	5	**0**	**12**	N/A	2.278E-03	54.1		✓				(23)	
142	Q3UCQ1	FOXK2	Forkhead box protein K2 GN=Foxk2 PE=2 SV=3 - [FOXK2_MOUSE]	0	2	0	5	0	5	**0**	**12**	N/A	1.613E-02	68.4	✓					(1)(9)(20)(23)	
143	Q02614	S30BP	SAP30-binding protein GN=Sap30bp PE=2 SV=2 - [S30BP_MOUSE]	0	4	0	4	0	4	**0**	**12**	N/A	0.000E+00	33.8	✓					(1)(20)(23)	
144	P97797-2	SHPS1	Isoform 2 of Tyrosine-protein phosphatase non-receptor type substrate 1 GN=Sirpa - [SHPS1_	0	4	0	3	0	5	**0**	**12**	N/A	2.278E-03	56.0			✓				
145	P24668	MPRD	Cation-dependent mannose-6-phosphate receptor GN=M6pr PE=1 SV=1 - [MPRD_MOUSE]	0	4	0	3	0	5	**0**	**12**	N/A	2.278E-03	31.2			✓				
146	Q8BIH0-2	SP130	Isoform 2 of Histone deacetylase complex subunit SAP130 GN=Sap130 - [SP130_MOUSE]	0	5	0	3	0	4	**0**	**12**	N/A	2.278E-03	92.8	✓				✓		
147	Q04887	SOX9	Transcription factor SOX-9 GN=Sox9 PE=2 SV=2 - [SOX9_MOUSE]	0	3	0	3	0	6	**0**	**12**	N/A	1.613E-02	56.0	✓						
148	F6TWX0	F6TWX0	Nuclear transcription factor Y subunit alpha (Fragment) GN=Nfya PE=4 SV=1 - [F6TWX0_MO	0	6	0	3	0	3	**0**	**12**	N/A	1.613E-02	22.7	✓				✓		
149	P51569	AGAL	Alpha-galactosidase A GN=Gla PE=1 SV=1 - [AGAL_MOUSE]	0	2	0	4	0	5	**0**	**11**	N/A	1.417E-02	47.6		✓					(17)
150	Q3TJD7	PDLI7	PDZ and LIM domain protein 7 GN=Pdlim7 PE=2 SV=1 - [PDLI7_MOUSE]	0	3	0	4	0	4	**0**	**11**	N/A	3.882E-04	50.1	✓						(16)
151	Q02819	NUCB1	Nucleobindin-1 GN=Nucb1 PE=1 SV=2 - [NUCB1_MOUSE]	0	2	0	4	0	5	**0**	**11**	N/A	1.417E-02	53.4		✓				(9)(20)(23)	(15)(16)(17)
152	Q62348	TSN	Translin GN=Tsn PE=1 SV=1 - [TSN_MOUSE]	0	4	0	4	0	3	**0**	**11**	N/A	3.882E-04	26.2	✓			✓	✓	(9)(23)(26)	
153	Q9JKP5	MBNL1	Muscleblind-like protein 1 GN=Mbnl1 PE=1 SV=1 - [MBNL1_MOUSE]	0	2	0	6	0	3	**0**	**11**	N/A	3.800E-02	37.0	✓			✓	✓	(9)(23)	
154	Q91W59-2	RBMS1	Isoform 2 of RNA-binding motif, single-stranded-interacting protein 1 GN=Rbms1 - [RBMS1_	0	2	0	6	0	3	**0**	**11**	N/A	3.800E-02	40.0	✓					(9)(23)	
155	Q62203	SF3A2	Splicing factor 3A subunit 2 GN=Sf3a2 PE=2 SV=2 - [SF3A2_MOUSE]	0	5	0	2	0	4	**0**	**11**	N/A	1.417E-02	49.9	✓					(9)(23)	
156	P05627	JUN	Transcription factor AP-1 GN=Jun PE=1 SV=3 - [JUN_MOUSE]	0	2	0	5	0	4	**0**	**11**	N/A	1.417E-02	35.9	✓				✓	(9)(23)	
157	Q9R0P5	DEST	Destrin GN=Dstn PE=1 SV=3 - [DEST_MOUSE]	0	4	0	3	0	4	**0**	**11**	N/A	3.882E-04	18.5	✓			✓	✓	(26)	

No.	Accession	Gene	Description	GalNAz Spectral Counts Experiment 1 -	Experiment 1 +	Experiment 2 -	Experiment 2 +	Experiment 3 -	Experiment 3 +	Sum -	Sum +	Enrichment Ratio	t-test	MW [kDa]	Localization: Exclusively Intracellular	Localization: Exclusively Extracellular, Lysosomal, Lumenal	Localization: Both	6AzGlcNAc	GlcNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
15	Q8K3X4	I2BPL	Interferon regulatory factor 2-binding protein-like GN=Irf2bpl PE=1 SV=1 - [I2BPL_MOUSE]	0	3	0	4	0	4	**0**	**11**	N/A	3.882E-04	80.5	✓					(1)(20)(23)	
15	E9PZ00	E9PZ00	Sulfated glycoprotein 1 GN=Psap PE=4 SV=1 - [E9PZ00_MOUSE]	0	3	0	4	0	4	**0**	**11**	N/A	3.882E-04	60.6		✓					
16	Q8BP71-5	RFOX2	Isoform 5 of RNA binding protein fox-1 homolog 2 GN=Rbfox2 - [RFOX2_MOUSE]	0	3	0	3	0	5	**0**	**11**	N/A	5.328E-03	46.2	✓						
16	Q60929-2	MEF2A	Isoform 2 of Myocyte-specific enhancer factor 2A GN=Mef2a - [MEF2A_MOUSE]	0	3	0	4	0	4	**0**	**11**	N/A	3.882E-04	52.6	✓				✓		
16	Q5NCM6	Q5NCM6	Epsin 2 GN=Epn2 PE=2 SV=1 - [Q5NCM6_MOUSE]	0	3	0	6	0	2	**0**	**11**	N/A	3.800E-02	61.6	✓						
16	Q3UMF0-4	COBL1	Isoform 4 of Cordon-bleu protein-like 1 GN=Cobll1 - [COBL1_MOUSE]	0	3	0	3	0	5	**0**	**11**	N/A	5.328E-03	130	✓			✓	✓		
16	Q9WV54	ASAH1	Acid ceramidase GN=Asah1 PE=1 SV=1 - [ASAH1_MOUSE]	0	4	0	4	0	2	**0**	**10**	N/A	7.490E-03	44.6		✓					(17)
16	Q3TCN2-2	PLBL2	Isoform 2 of Putative phospholipase B-like 2 GN=Plbd2 - [PLBL2_MOUSE]	0	3	0	4	0	3	**0**	**10**	N/A	5.620E-04	49.9		✓					(17)
16	P17439	GLCM	Glucosylceramidase GN=Gba PE=1 SV=1 - [GLCM_MOUSE]	0	2	0	5	0	3	**0**	**10**	N/A	1.944E-02	57.6		✓					(17)
16	Q80W68-2	KIRR1	Isoform 2 of Kin of IRRE-like protein 1 GN=Kirrel - [KIRR1_MOUSE]	0	2	0	3	0	5	**0**	**10**	N/A	1.944E-02	69.9			✓				(16)
16	P15379-2	CD44	Isoform 13 of CD44 antigen GN=Cd44 - [CD44_MOUSE]	0	2	0	3	0	5	**0**	**10**	N/A	1.944E-02	40.0			✓		✓	(9)(23)	(10)(16)
16	P42227-2	STAT3	Isoform Stat3B of Signal transducer and activator of transcription 3 GN=Stat3 - [STAT3_MOU	0	4	0	3	0	3	**0**	**10**	N/A	5.620E-04	83.1	✓			✓		(9)(23)	
17	Q99KP6	PRP19	Pre-mRNA-processing factor 19 GN=Prpf19 PE=2 SV=1 - [PRP19_MOUSE]	0	3	0	4	0	3	**0**	**10**	N/A	5.620E-04	55.2	✓					(23)	
17	A2AA71	A2AA71	Protein transport protein Sec24A GN=Sec24a PE=4 SV=1 - [A2AA71_MOUSE]	0	3	0	3	0	4	**0**	**10**	N/A	5.620E-04	119	✓					(2)	
17	P57716	NICA	Nicastrin GN=Ncstn PE=1 SV=3 - [NICA_MOUSE]	0	5	0	2	0	3	**0**	**10**	N/A	1.944E-02	78.4		✓					
17	P21956-2	MFGM	Isoform 2 of Lactadherin GN=Mfge8 - [MFGM_MOUSE]	0	4	0	3	0	3	**0**	**10**	N/A	5.620E-04	47.1		✓					
17	E9Q6C7	E9Q6C7	Latrophilin-2 GN=Lphn2 PE=3 SV=1 - [E9Q6C7_MOUSE]	0	4	0	3	0	3	**0**	**10**	N/A	5.620E-04	167			✓				
17	D3YYT0	D3YYT0	Cadherin-2 GN=Cdh2 PE=3 SV=1 - [D3YYT0_MOUSE]	0	3	0	3	0	4	**0**	**10**	N/A	5.620E-04	93.8			✓				
17	Q99LJ0	CT2NL	CTTNBP2 N-terminal-like protein GN=Cttnbp2nl PE=1 SV=1 - [CT2NL_MOUSE]	0	4	0	3	0	3	**0**	**10**	N/A	5.620E-04	69.8	✓						
17	Q3UMF0-3	COBL1	Isoform 3 of Cordon-bleu protein-like 1 GN=Cobll1 - [COBL1_MOUSE]	0	3	0	3	0	4	**0**	**10**	N/A	5.620E-04	129	✓			✓	✓		
17	Q3U4W8	Q3U4W8	Ubiquitin carboxyl-terminal hydrolase GN=Usp5 PE=2 SV=1 - [Q3U4W8_MOUSE]	0	4	0	4	0	2	**0**	**10**	N/A	7.490E-03	93.3	✓			✓			
17	Q00422	GABPA	GA-binding protein alpha chain GN=Gabpa PE=1 SV=2 - [GABPA_MOUSE]	0	3	0	2	0	5	**0**	**10**	N/A	1.944E-02	51.3	✓						
18	D3Z191	D3Z191	Transmembrane protein 106B (Fragment) GN=Tmem106b PE=4 SV=1 - [D3Z191_MOUSE]	0	4	0	2	0	4	**0**	**10**	N/A	7.490E-03	20.8	✓						
18	O35405	PLD3	Phospholipase D3 GN=Pld3 PE=2 SV=1 - [PLD3_MOUSE]	0	2	0	4	0	3	**0**	**9**	N/A	6.533E-03	54.4		✓				(9)(23)	(17)
18	O89023	TPP1	Tripeptidyl-peptidase 1 GN=Tpp1 PE=1 SV=2 - [TPP1_MOUSE]	0	3	0	4	0	2	**0**	**9**	N/A	6.533E-03	61.3		✓					(17)
18	Q99K90	TAB2	TGF-beta-activated kinase 1 and MAP3K7-binding protein 2 GN=Tab2 PE=1 SV=1 - [TAB2_M	0	3	0	2	0	4	**0**	**9**	N/A	6.533E-03	76.4	✓					(9)(23)	
18	Q60838	DVL2	Segment polarity protein dishevelled homolog DVL-2 GN=Dvl2 PE=1 SV=2 - [DVL2_MOUSE]	0	4	0	2	0	3	**0**	**9**	N/A	6.533E-03	78.8	✓					(9)(23)	
18	Q9QXS6-3	DREB	Isoform E2 of Drebrin GN=Dbn1 - [DREB_MOUSE]	0	5	0	2	0	2	**0**	**9**	N/A	3.994E-02	72.4	✓			✓	✓	(23)	
18	Q99KF1	TMED9	Transmembrane emp24 domain-containing protein 9 GN=Tmed9 PE=2 SV=2 - [TMED9_MOU	0	4	0	1	0	4	**0**	**9**	N/A	3.994E-02	27.1			✓				
18	Q91XX1	Q91XX1	Protein Pcdhga11 GN=Pcdhgc3 PE=2 SV=1 - [Q91XX1_MOUSE]	0	2	0	5	0	2	**0**	**9**	N/A	3.994E-02	101			✓				
18	Q3TW96	UAP1L	UDP-N-acetylhexosamine pyrophosphorylase-like protein 1 GN=Uap1l1 PE=2 SV=1 - [UAP1L	0	3	0	4	0	2	**0**	**9**	N/A	6.533E-03	56.6	✓			✓	✓		
18	Q3TQ29	Q3TQ29	Pumilio homolog 2 GN=Pum2 PE=2 SV=1 - [Q3TQ29_MOUSE]	0	4	0	3	0	2	**0**	**9**	N/A	6.533E-03	106	✓						
19	G3X8Q0	G3X8Q0	Trans-acting transcription factor 1 GN=Sp1 PE=4 SV=1 - [G3X8Q0_MOUSE]	0	2	0	4	0	3	**0**	**9**	N/A	6.533E-03	80.4	✓			✓	✓		
19	E9QKG6	E9QKG6	Ankyrin repeat domain-containing protein 17 GN=Ankrd17 PE=4 SV=1 - [E9QKG6_MOUSE]	0	3	0	2	0	4	**0**	**9**	N/A	6.533E-03	247	✓						
19	P17047	LAMP2	Lysosome-associated membrane glycoprotein 2 GN=Lamp2 PE=2 SV=2 - [LAMP2_MOUSE]	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	45.7			✓		✓	(9)(23)	(3)(16)(17)
19	Q9Z247	FKBP9	Peptidyl-prolyl cis-trans isomerase FKBP9 GN=Fkbp9 PE=1 SV=1 - [FKBP9_MOUSE]	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	63.0		✓					(17)
19	Q07797	LG3BP	Galectin-3-binding protein GN=Lgals3bp PE=1 SV=1 - [LG3BP_MOUSE]	0	2	0	2	0	4	**0**	**8**	N/A	1.613E-02	64.4		✓					(16)(17)
19	Q9EQQ9	NCOAT	Bifunctional protein NCOAT GN=Mgea5 PE=1 SV=2 - [NCOAT_MOUSE]	0	2	0	2	0	4	**0**	**8**	N/A	1.613E-02	103	✓					(23)	(16)
19	Q8K297	GT251	Procollagen galactosyltransferase 1 GN=Glt25d1 PE=1 SV=2 - [GT251_MOUSE]	0	3	0	2	0	3	**0**	**8**	N/A	1.324E-03	71.0		✓					(16)
19	Q05186	RCN1	Reticulocalbin-1 GN=Rcn1 PE=1 SV=1 - [RCN1_MOUSE]	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	38.1		✓					(16)
19	Q08093	CNN2	Calponin-2 GN=Cnn2 PE=2 SV=1 - [CNN2_MOUSE]	0	3	0	2	0	3	**0**	**8**	N/A	1.324E-03	33.1	✓			✓	✓	(9)(23)(26)	
19	P51859	HDGF	Hepatoma-derived growth factor GN=Hdgf PE=1 SV=2 - [HDGF_MOUSE]	0	4	0	2	0	2	**0**	**8**	N/A	1.613E-02	26.3	✓			✓	✓	(9)(23)(26)	
20	Q8BU11	TOX4	TOX high mobility group box family member 4 GN=Tox4 PE=1 SV=3 - [TOX4_MOUSE]	0	2	0	4	0	2	**0**	**8**	N/A	1.613E-02	65.9	✓					(9)(23)	

				GalNAz																	
				Spectral Counts																	
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization					
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GlcNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
201	Q8R3V5-1	SHLB2	Isoform 1 of Endophilin-B2 GN=Sh3glb2 - [SHLB2_MOUSE]	0	3	0	2	0	3	**0**	**8**	N/A	1.324E-03	44.1	✓					(5)	
202	Q00560	IL6RB	Interleukin-6 receptor subunit beta GN=Il6st PE=1 SV=2 - [IL6RB_MOUSE]	0	2	0	4	0	2	**0**	**8**	N/A	1.613E-02	102			✓			(20)	
203	Q7TT18	MCAF1	Activating transcription factor 7-interacting protein 1 GN=Atf7ip PE=1 SV=1 - [MCAF1_MOU	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	139	✓					(1)(23)	
204	Q9R1J0	NSDHL	Sterol-4-alpha-carboxylate 3-dehydrogenase, decarboxylating GN=Nsdhl PE=2 SV=1 - [NSDI	0	3	0	2	0	3	**0**	**8**	N/A	1.324E-03	40.7		✓			✓		
205	Q5SVW9	Q5SVW9	Transmembrane emp24 domain-containing protein 4 (Fragment) GN=Tmed4 PE=2 SV=1 - [C	0	2	0	4	0	2	**0**	**8**	N/A	1.613E-02	19.1		✓					
206	A2ACG7	A2ACG7	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 2 GN=Rpn2 PE=4 SV	0	2	0	4	0	2	**0**	**8**	N/A	1.613E-02	67.5		✓					
207	Q9CY50	SSRA	Translocon-associated protein subunit alpha GN=Ssr1 PE=1 SV=1 - [SSRA_MOUSE]	0	3	0	3	0	2	**0**	**8**	N/A	1.324E-03	32.0			✓				
208	Q64314	CD34	Hematopoietic progenitor cell antigen CD34 GN=Cd34 PE=1 SV=1 - [CD34_MOUSE]	0	3	0	2	0	3	**0**	**8**	N/A	1.324E-03	41.0			✓				
209	Q02780-2	NFIA	Isoform 1 of Nuclear factor 1 A-type GN=Nfia - [NFIA_MOUSE]	0	2	0	2	0	4	**0**	**8**	N/A	1.613E-02	49.9	✓						
210	E9Q1U8	E9Q1U8	Transcription intermediary factor 1-alpha GN=Trim24 PE=4 SV=1 - [E9Q1U8_MOUSE]	0	2	0	3	0	3	**0**	**8**	N/A	1.324E-03	110	✓						
211	D3Z0T0	D3Z0T0	Transcription initiation factor TFIID subunit 6 GN=Taf6 PE=4 SV=1 - [D3Z0T0_MOUSE]	0	2	0	2	0	4	**0**	**8**	N/A	1.613E-02	69.8	✓						
212	Q61398	PCOC1	Procollagen C-endopeptidase enhancer 1 GN=Pcolce PE=1 SV=2 - [PCOC1_MOUSE]	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	50.1		✓					(17)
213	Q61810-2	LTBP3	Isoform 2 of Latent-transforming growth factor beta-binding protein 3 GN=Ltbp3 - [LTBP3_M	0	3	0	2	0	2	**0**	**7**	N/A	2.192E-03	93.3		✓					(16)
214	Q8VBZ3	CLPT1	Cleft lip and palate transmembrane protein 1 homolog GN=Clptm1 PE=1 SV=1 - [CLPT1_MC	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	75.2			✓				(16)
215	F6VSK8	F6VSK8	Integrin alpha-6 (Fragment) GN=Itga6 PE=3 SV=1 - [F6VSK8_MOUSE]	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	75.0			✓				(10)
216	Q9JKV1	ADRM1	Proteasomal ubiquitin receptor ADRM1 GN=Adrm1 PE=1 SV=2 - [ADRM1_MOUSE]	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	42.0	✓				✓	(9)(20)(23)	
217	Q99K48	NONO	Non-POU domain-containing octamer-binding protein GN=Nono PE=1 SV=3 - [NONO_MOU	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	54.5	✓			✓	✓	(9)(19)(23)(24)(26)	
218	Q571G4	LIN54	Protein lin-54 homolog GN=Lin54 PE=2 SV=2 - [LIN54_MOUSE]	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	79.5	✓					(9)(19)(23)	
219	Q60710	SAMH1	SAM domain and HD domain-containing protein 1 GN=Samhd1 PE=1 SV=2 - [SAMH1_MOU	0	3	0	2	0	2	**0**	**7**	N/A	2.192E-03	72.6	✓			✓	✓	(23)	
220	Q9WUU7	CATZ	Cathepsin Z GN=Ctsz PE=2 SV=1 - [CATZ_MOUSE]	0	3	0	1	0	3	**0**	**7**	N/A	2.490E-02	34.0		✓					
221	P14719-2	ILRL1	Isoform B of Interleukin-1 receptor-like 1 GN=Il1rl1 - [ILRL1_MOUSE]	0	3	0	2	0	2	**0**	**7**	N/A	2.192E-03	38.5			✓		✓		
222	P14428	HA1Q	H-2 class I histocompatibility antigen, K-Q alpha chain (Fragment) GN=H2-K1 PE=2 SV=1 - [H	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	36.8			✓				
223	Q9D032-2	SSBP3	Isoform 2 of Single-stranded DNA-binding protein 3 GN=Ssbp3 - [SSBP3_MOUSE]	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	37.7	✓						
224	Q7TSH6	Q7TSH6	Protein Scaf4 GN=Scaf4 PE=2 SV=1 - [Q7TSH6_MOUSE]	0	2	0	3	0	2	**0**	**7**	N/A	2.192E-03	129	✓						
225	Q62347	Q62347	Cyclic AMP-responsive element-binding protein 1 GN=Creb1 PE=2 SV=1 - [Q62347_MOUSE	0	3	0	1	0	3	**0**	**7**	N/A	2.490E-02	30.9	✓						
226	E9Q7M2	E9Q7M2	Protein Tsc22d2 GN=Tsc22d2 PE=4 SV=1 - [E9Q7M2_MOUSE]	0	2	0	2	0	3	**0**	**7**	N/A	2.192E-03	78.1	✓			✓			
227	A3KGT0	A3KGT0	CUG triplet repeat, RNA binding protein 2 GN=Celf2 PE=4 SV=1 - [A3KGT0_MOUSE]	0	3	0	2	0	2	**0**	**7**	N/A	2.192E-03	16.4	✓						
228	P28654	PGS2	Decorin GN=Dcn PE=2 SV=1 - [PGS2_MOUSE]	0	2	0	1	0	3	**0**	**6**	N/A	2.572E-02	39.8		✓					(17)
229	P15307	REL	Proto-oncogene c-Rel GN=Rel PE=1 SV=2 - [REL_MOUSE]	0	1	0	3	0	2	**0**	**6**	N/A	2.572E-02	64.9	✓			✓	✓	(9)(23)	
230	Q7TSJ2-3	MAP6	Isoform 3 of Microtubule-associated protein 6 GN=Map6 - [MAP6_MOUSE]	0	3	0	1	0	2	**0**	**6**	N/A	2.572E-02	32.8	✓			✓	✓	(5)	
231	Q5SXC4	Q5SXC4	Protein Vezf1 GN=Vezf1 PE=2 SV=1 - [Q5SXC4_MOUSE]	0	1	0	3	0	2	**0**	**6**	N/A	2.572E-02	56.5	✓					(20)	
232	P25425-10	PO2F1	Isoform 10 of POU domain, class 2, transcription factor 1 GN=Pou2f1 - [PO2F1_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	56.2	✓					(19)(23)	
233	A2AUK7	A2AUK7	Erythrocyte protein band 4.1-like 1 GN=Epb4.1l1 PE=4 SV=1 - [A2AUK7_MOUSE]	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	81.8	✓					(13)	
234	Q9R0I7	YLPM1	YLP motif-containing protein 1 GN=Ylpm1 PE=2 SV=2 - [YLPM1_MOUSE]	0	1	0	3	0	2	**0**	**6**	N/A	2.572E-02	155	✓					(1)(9)(19)(23)	
235	P58871	TB182	182 kDa tankyrase-1-binding protein GN=Tnks1bp1 PE=1 SV=2 - [TB182_MOUSE]	0	2	0	3	0	1	**0**	**6**	N/A	2.572E-02	182	✓			✓	✓	(1)(20)(23)(26)	
236	Q80WC7	AGFG2	Arf-GAP domain and FG repeat-containing protein 2 GN=Agfg2 PE=1 SV=1 - [AGFG2_MOU	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	48.9	✓					(1)(20)	
237	Q689Z5	SBNO1	Protein strawberry notch homolog 1 GN=Sbno1 PE=1 SV=2 - [SBNO1_MOUSE]	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	154	✓					(1)(20)	
238	P0C7T6	ATX1L	Ataxin-1-like GN=Atxn1l PE=1 SV=1 - [ATX1L_MOUSE]	0	2	0	1	0	3	**0**	**6**	N/A	2.572E-02	73.3	✓				✓	(1)	
239	O88668	CREG1	Protein CREG1 GN=Creg1 PE=2 SV=1 - [CREG1_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	24.4		✓					
240	B1B0C7	B1B0C7	Basement membrane-specific heparan sulfate proteoglycan core protein GN=Hspg2 PE=4 SV	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	469		✓					
241	P53986	MOT1	Monocarboxylate transporter 1 GN=Slc16a1 PE=1 SV=1 - [MOT1_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	53.2			✓				
242	Q920E5	FPPS	Farnesyl pyrophosphate synthase GN=Fdps PE=2 SV=1 - [FPPS_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	40.6	✓						

				GalNAz																
				Spectral Counts																
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization					
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GlcNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
243	Q08775-3	RUNX2	Isoform 3 of Runt-related transcription factor 2 GN=Runx2 - [RUNX2_MOUSE]	0	1	0	3	0	2	**0**	**6**	N/A	2.572E-02	55.7	✓						
244	O88811-2	STAM2	Isoform 2 of Signal transducing adapter molecule 2 GN=Stam2 - [STAM2_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	46.2	✓						
245	H3BLR8	H3BLR8	Diphosphoinositol polyphosphate phosphohydrolase 1 GN=Nudt3 PE=3 SV=1 - [H3BLR8_M	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	13.6	✓						
246	F6VCW7	F6VCW7	Nuclear factor of-activated T-cells 5 (Fragment) GN=Nfat5 PE=4 SV=1 - [F6VCW7_MOUSE]	0	2	0	2	0	2	**0**	**6**	N/A	0.000E+00	14.7	✓						
247	E9QME5	E9QME5	E3 ubiquitin-protein ligase TRIM33 GN=Trim33 PE=4 SV=1 - [E9QME5_MOUSE]	0	2	0	1	0	3	**0**	**6**	N/A	2.572E-02	122	✓						
248	H9H9R4	H9H9R4	Protein 0610031J06Rik GN=0610031J06Rik PE=4 SV=1 - [H9H9R4_MOUSE]	0	1	0	2	0	3	**0**	**6**	N/A	2.572E-02	36.7							
249	Q8BKC5	IPO5	Importin-5 GN=Ipo5 PE=1 SV=3 - [IPO5_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	124	✓			✓		(9)(23)	(17)
250	P97300-1	NPTN	Isoform 1 of Neuroplastin GN=Nptn - [NPTN_MOUSE]	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	31.3			✓				(17)
251	Q91XA2	GOLM1	Golgi membrane protein 1 GN=Golm1 PE=1 SV=2 - [GOLM1_MOUSE]	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	44.3			✓				(16)
252	O35375-5	NRP2	Isoform B0 of Neuropilin-2 GN=Nrp2 - [NRP2_MOUSE]	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	101			✓				(16)
253	B2RXS4	PLXB2	Plexin-B2 GN=Plxnb2 PE=1 SV=1 - [PLXB2_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	206			✓				(10)
254	Q9WVH4	FOXO3	Forkhead box protein O3 GN=Foxo3 PE=1 SV=1 - [FOXO3_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	71.0	✓					(9)(23)	
255	Q9WU00-2	NRF1	Isoform Short of Nuclear respiratory factor 1 GN=Nrf1 - [NRF1_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	46.1	✓					(9)(23)	
256	Q60793	KLF4	Krueppel-like factor 4 GN=Klf4 PE=1 SV=3 - [KLF4_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	51.8	✓					(9)(23)	
257	Q9Z1D1	EIF3G	Eukaryotic translation initiation factor 3 subunit G GN=Eif3g PE=1 SV=2 - [EIF3G_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	35.6	✓			✓	✓	(9)(19)(23)(26)	
258	Q62261-2	SPTB2	Isoform 2 of Spectrin beta chain, non-erythrocytic 1 GN=Sptbn1 - [SPTB2_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	251	✓					(5)(21)	
259	Q8VCQ8	Q8VCQ8	Caldesmon 1 GN=Cald1 PE=2 SV=1 - [Q8VCQ8_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	60.4	✓			✓	✓	(26)	
260	P97765	WBP2	WW domain-binding protein 2 GN=Wbp2 PE=1 SV=1 - [WBP2_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	28.0	✓					(20)	
261	G5E899	G5E899	Plasminogen activator inhibitor 1 GN=Serpine1 PE=3 SV=1 - [G5E899_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	45.0		✓					
262	Q8BXZ1	TMX3	Protein disulfide-isomerase TMX3 GN=Tmx3 PE=1 SV=2 - [TMX3_MOUSE]	0	2	0	1	0	2	**0**	**5**	N/A	7.490E-03	51.8			✓				
263	Q6PD26	PIGS	GPI transamidase component PIG-S GN=Pigs PE=1 SV=3 - [PIGS_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	61.7			✓				
264	P09450	JUNB	Transcription factor jun-B GN=Junb PE=1 SV=1 - [JUNB_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	35.7	✓						
265	O89032-3	SPD2A	Isoform 3 of SH3 and PX domain-containing protein 2A GN=Sh3pxd2a - [SPD2A_MOUSE]	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	119	✓			✓			
266	H3BJ97	H3BJ97	Tubulointerstitial nephritis antigen-like GN=Tinagl1 PE=3 SV=1 - [H3BJ97_MOUSE]	0	1	0	2	0	2	**0**	**5**	N/A	7.490E-03	49.2	✓						
267	E9QLT6	E9QLT6	Aryl hydrocarbon receptor nuclear translocator GN=Arnt PE=4 SV=2 - [E9QLT6_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	84.5	✓						
268	A2A9W7	A2A9W7	ADP-ribosylation factor-binding protein GGA3 GN=Gga3 PE=4 SV=1 - [A2A9W7_MOUSE]	0	2	0	2	0	1	**0**	**5**	N/A	7.490E-03	70.1	✓						
269	O88531	PPT1	Palmitoyl-protein thioesterase 1 GN=Ppt1 PE=2 SV=2 - [PPT1_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	34.5		✓					(17)
270	Q8BJS4-3	SUN2	Isoform 3 of SUN domain-containing protein 2 GN=Sun2 - [SUN2_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	78.1	✓						(16)
271	P43406	ITAV	Integrin alpha-V GN=Itgav PE=1 SV=2 - [ITAV_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	115		✓					(10)
272	Q9WTK5	NFKB2	Nuclear factor NF-kappa-B p100 subunit GN=Nfkb2 PE=1 SV=1 - [NFKB2_MOUSE]	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	96.8	✓			✓	✓	(9)(23)(26)	
273	Q9DBR0	AKAP8	A-kinase anchor protein 8 GN=Akap8 PE=1 SV=1 - [AKAP8_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	76.2	✓			✓		(9)(23)	
274	P60229	EIF3E	Eukaryotic translation initiation factor 3 subunit E GN=Eif3e PE=1 SV=1 - [EIF3E_MOUSE]	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	52.2	✓					(9)(23)	
275	B2RRE7	OTUD4	OTU domain-containing protein 4 GN=Otud4 PE=1 SV=1 - [OTUD4_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	123	✓			✓		(9)(23)	
276	P54254	ATX1	Ataxin-1 GN=Atxn1 PE=1 SV=2 - [ATX1_MOUSE]	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	83.7	✓					(20)	
277	B1AR09	B1AR09	Myeloid/lymphoid or mixed lineage-leukemia translocation to 6 homolog (Drosophila) GN=M	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	111	✓				✓	(20)	
278	Q9CZD3	SYG	Glycine--tRNA ligase GN=Gars PE=1 SV=1 - [SYG_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	81.8	✓			✓	✓	(14)(23)(26)	
279	Q8VI36-2	PAXI	Isoform Alpha of Paxillin GN=Pxn - [PAXI_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	60.8	✓				✓	(14)(23)	
280	Q8C9B9	DIDO1	Death-inducer obliterator 1 GN=Dido1 PE=1 SV=4 - [DIDO1_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	247	✓					(1)(9)(19)(20)(23)	
281	Q3UHC0	TNR6C	Trinucleotide repeat-containing gene 6C protein GN=Tnrc6c PE=1 SV=2 - [TNR6C_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	176	✓					(1)(20)(23)	
282	Q9R233-2	TPSN	Isoform Short of Tapasin GN=Tapbp - [TPSN_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	46.6		✓					
283	P50429-2	ARSB	Isoform 2 of Arylsulfatase B GN=Arsb - [ARSB_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	47.9		✓					
284	O09159	MA2B1	Lysosomal alpha-mannosidase GN=Man2b1 PE=2 SV=4 - [MA2B1_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	115		✓					

				GalNAz																
				Spectral Counts																
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization				
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GlcNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
285	E9Q0W5	E9Q0W5	Protein FAM3C (Fragment) GN=Fam3c PE=4 SV=1 - [E9Q0W5_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	16.5		✓					
286	Q6NZD2	Q6NZD2	Sorting nexin 1 GN=Snx1 PE=2 SV=1 - [Q6NZD2_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	58.8	✓			✓	✓		
287	P97496-2	SMRC1	Isoform 2 of SWI/SNF complex subunit SMARCC1 GN=Smarcc1 - [SMRC1_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	120	✓						
288	G5E8E1	G5E8E1	Leucine rich repeat (In FLII) interacting protein 1, isoform CRA_e GN=Lrrfip1 PE=4 SV=1 - [G5	0	1	0	1	0	2	**0**	**4**	N/A	1.613E-02	48.9	✓			✓	✓		
289	F6VXN4	F6VXN4	TSC22 domain family protein 4 (Fragment) GN=Tsc22d4 PE=4 SV=1 - [F6VXN4_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	10.3	✓						
290	E9Q6M7	E9Q6M7	Pumilio homolog 1 GN=Pum1 PE=4 SV=1 - [E9Q6M7_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	100	✓						
291	D3YY34	D3YY34	Polyhomeotic-like protein 3 GN=Phc3 PE=4 SV=1 - [D3YY34_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	102	✓						
292	D3YXK2	SAFB1	Scaffold attachment factor B1 GN=Safb PE=1 SV=2 - [SAFB1_MOUSE]	0	1	0	2	0	1	**0**	**4**	N/A	1.613E-02	105	✓			✓	✓		
293	Q9EP69	SAC1	Phosphatidylinositide phosphatase SAC1 GN=Sacm1l PE=2 SV=1 - [SAC1_MOUSE]	0	2	0	1	0	1	**0**	**4**	N/A	1.613E-02	66.9							
294	P97298	PEDF	Pigment epithelium-derived factor GN=Serpinf1 PE=1 SV=2 - [PEDF_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	46.2		✓					(17)
295	Q8BPB5	FBLN3	EGF-containing fibulin-like extracellular matrix protein 1 GN=Efemp1 PE=2 SV=1 - [FBLN3_M	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	54.9		✓			✓		(16)
296	A8Y5F6	A8Y5F6	Podoplanin GN=Pdpn PE=1 SV=1 - [A8Y5F6_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	16.8		✓				(26)	(11)
297	Q62418-3	DBNL	Isoform 3 of Drebrin-like protein GN=Dbnl - [DBNL_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	48.3	✓			✓	✓	(9)(23)(26)	
298	Q8C0C0	ZHX2	Zinc fingers and homeoboxes protein 2 GN=Zhx2 PE=1 SV=1 - [ZHX2_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	92.2	✓					(9)(23)	
299	Q6P5G6	UBXN7	UBX domain-containing protein 7 GN=Ubxn7 PE=1 SV=2 - [UBXN7_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	52.1	✓				✓	(9)(23)	
300	P45377	ALD2	Aldose reductase-related protein 2 GN=Akr1b8 PE=1 SV=2 - [ALD2_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	36.1	✓			✓	✓	(26)	
301	Q9JIF7	COPB	Coatomer subunit beta GN=Copb1 PE=1 SV=1 - [COPB_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	107	✓				✓	(14)(23)	
302	Q9ESU7	Q9ESU7	Neutral amino acid transporter ASCT2 GN=Slc1a5 PE=2 SV=1 - [Q9ESU7_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	58.4		✓					
303	Q01721	GAS1	Growth arrest-specific protein 1 GN=Gas1 PE=2 SV=2 - [GAS1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	35.7		✓					
304	P28653	PGS1	Biglycan GN=Bgn PE=2 SV=1 - [PGS1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	41.6		✓					
305	P23780	BGAL	Beta-galactosidase GN=Glb1 PE=2 SV=1 - [BGAL_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	73.1		✓					
306	G3UWE1	G3UWE1	MCG11048, isoform CRA_c GN=Tecr PE=4 SV=1 - [G3UWE1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	34.2		✓					
307	B7ZC19	B7ZC19	GPI transamidase component PIG-T GN=Pigt PE=4 SV=1 - [B7ZC19_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	49.1		✓					
308	Q9JLJ5	ELOV1	Elongation of very long chain fatty acids protein 1 GN=Elovl1 PE=2 SV=1 - [ELOV1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	32.7			✓	✓	✓		
309	Q9Z1B5	MD2L1	Mitotic spindle assembly checkpoint protein MAD2A GN=Mad2l1 PE=2 SV=2 - [MD2L1_MO	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	23.6	✓				✓		
310	Q9QYH6	MAGD1	Melanoma-associated antigen D1 GN=Maged1 PE=1 SV=1 - [MAGD1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	85.6	✓						
311	Q9DBY0-2	FOXP4	Isoform 2 of Forkhead box protein P4 GN=Foxp4 - [FOXP4_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	72.7	✓						
312	Q8BKL1	Q8BKL1	Protein SSXT GN=Ss18 PE=2 SV=1 - [Q8BKL1_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	38.0	✓						
313	Q8BH93	MISSL	MAPK-interacting and spindle-stabilizing protein-like GN=Mapk1ip1l PE=2 SV=3 - [MISSL_M	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	23.9	✓				✓		
314	Q61286-2	HTF4	Isoform ALF1A of Transcription factor 12 GN=Tcf12 - [HTF4_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	72.9	✓						
315	P70445	4EBP2	Eukaryotic translation initiation factor 4E-binding protein 2 GN=Eif4ebp2 PE=2 SV=1 - [4EBP	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	12.9	✓			✓			
316	F6T2Z7	F6T2Z7	Protein Cald1 (Fragment) GN=Cald1 PE=4 SV=1 - [F6T2Z7_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	41.4	✓			✓	✓		
317	D3Z0J5	D3Z0J5	Forkhead box protein P1 (Fragment) GN=Foxp1 PE=4 SV=1 - [D3Z0J5_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	38.8	✓						
318	P08207	S10AA	Protein S100-A10 GN=S100a10 PE=2 SV=2 - [S10AA_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	11.2					✓		
319	J3QNT2	J3QNT2	Uncharacterized protein GN=Gm5435 PE=4 SV=1 - [J3QNT2_MOUSE]	0	1	0	1	0	1	**0**	**3**	N/A	0.000E+00	41.1							
320	P11276	FINC	Fibronectin GN=Fn1 PE=1 SV=4 - [FINC_MOUSE]	1	48	1	65	0	57	**2**	**170**	85.00	3.402E-04	272		✓					(16)(17)
321	E9PVC5	E9PVC5	Eukaryotic translation initiation factor 4 gamma 1 GN=Eif4g1 PE=4 SV=1 - [E9PVC5_MOUSE]	0	20	1	23	0	19	**1**	**62**	62.00	8.285E-05	175	✓			✓	✓	(12)	
322	Q8VHR5	P66B	Transcriptional repressor p66-beta GN=Gatad2b PE=1 SV=1 - [P66B_MOUSE]	0	12	1	15	0	18	**1**	**45**	45.00	1.143E-03	65.4	✓				✓	(1)(20)(23)	
323	Q8BFW7	LPP	Lipoma-preferred partner homolog GN=Lpp PE=1 SV=1 - [LPP_MOUSE]	0	11	1	17	0	16	**1**	**44**	44.00	1.607E-03	65.8	✓			✓	✓	(9)(20)(23)(26)	(16)
324	Q60715	P4HA1	Prolyl 4-hydroxylase subunit alpha-1 GN=P4ha1 PE=2 SV=2 - [P4HA1_MOUSE]	0	5	1	8	0	10	**1**	**23**	23.00	7.933E-03	60.9		✓					(16)
325	P60335	PCBP1	Poly(rC)-binding protein 1 GN=Pcbp1 PE=1 SV=1 - [PCBP1_MOUSE]	0	8	1	9	0	6	**1**	**23**	23.00	1.473E-03	37.5	✓			✓	✓	(9)(14)(23)(26)	
326	Q3UPL0-2	SC31A	Isoform 2 of Protein transport protein Sec31A GN=Sec31a - [SC31A_MOUSE]	1	15	2	19	0	20	**3**	**54**	18.00	4.809E-04	130	✓				✓	(5)(19)(26)	
327	O54931-2	AKAP2	Isoform 2 of A-kinase anchor protein 2 GN=Akap2 - [AKAP2_MOUSE]	0	6	1	6	0	4	**1**	**16**	16.00	2.570E-03	97.1	✓			✓	✓	(9)(23)(26)	

				GalNAz																
				Spectral Counts																
				Experiment 1		Experiment 2		Experiment 3		Sum						Localization				
No.	Accession	Gene	Description	-	+	-	+	-	+	-	+	Enrichment Ratio	t-test	MW [kDa]	Exclusively Intracellular	Exclusively Extracellular, Lysosomal, Lumenal	Both	6AzGlcNAc	GlcNAz	Previous O-GlcNAc Proteomics Identification	Previous Mucin Proteomics Identification
328	Q62523	ZYX	Zyxin GN=Zyx PE=1 SV=2 - [ZYX_MOUSE]	0	11	2	9	0	11	**2**	**31**	15.50	5.101E-04	60.5	✓			✓	✓	(1)(9)(23)(26)	
329	Q61029-3	LAP2B	Isoform Epsilon of Lamina-associated polypeptide 2, isoforms beta/delta/epsilon/gamma GN	1	9	1	10	0	11	**2**	**30**	15.00	1.510E-04	46.0	✓			✓	✓	(26)	
330	Q61033	LAP2A	Lamina-associated polypeptide 2, isoforms alpha/zeta GN=Tmpo PE=1 SV=4 - [LAP2A_MOU	1	5	0	5	0	5	**1**	**15**	15.00	1.510E-04	75.1	✓			✓	✓	(23)(26)	
331	Q8CI51	PDLI5	PDZ and LIM domain protein 5 GN=Pdlim5 PE=1 SV=4 - [PDLI5_MOUSE]	0	11	2	10	0	8	**2**	**29**	14.50	1.239E-03	63.3	✓			✓	✓	(1)(23)(26)	
332	P16092-6	FGFR1	Isoform 6 of Fibroblast growth factor receptor 1 GN=Fgfr1 - [FGFR1_MOUSE]	0	3	1	6	0	3	**1**	**12**	12.00	2.539E-02	91.6			✓				
333	Q6DFW4	NOP58	Nucleolar protein 58 GN=Nop58 PE=1 SV=1 - [NOP58_MOUSE]	1	2	0	5	0	4	**1**	**11**	11.00	2.411E-02	60.3	✓			✓	✓	(9)(23)(26)	
334	P10605	CATB	Cathepsin B GN=Ctsb PE=1 SV=2 - [CATB_MOUSE]	1	11	1	12	2	14	**4**	**37**	9.25	3.085E-04	37.3		✓			✓	(26)	(17)
335	Q501J6	DDX17	Probable ATP-dependent RNA helicase DDX17 GN=Ddx17 PE=2 SV=1 - [DDX17_MOUSE]	0	3	0	2	1	4	**1**	**9**	9.00	1.613E-02	72.4	✓			✓	✓	(5)(9)(23)(26)	
336	Q61990	PCBP2	Poly(rC)-binding protein 2 GN=Pcbp2 PE=1 SV=1 - [PCBP2_MOUSE]	0	2	1	4	0	2	**1**	**8**	8.00	3.517E-02	38.2	✓			✓	✓	(5)(14)(26)	(17)
337	P06797	CATL1	Cathepsin L1 GN=Ctsl1 PE=1 SV=2 - [CATL1_MOUSE]	1	4	1	6	0	4	**2**	**14**	7.00	5.821E-03	37.5		✓					(17)
338	P14733	LMNB1	Lamin-B1 GN=Lmnb1 PE=1 SV=3 - [LMNB1_MOUSE]	0	2	1	3	0	2	**1**	**7**	7.00	1.324E-02	66.7	✓			✓	✓	(9)(23)	
339	Q922Q8	LRC59	Leucine-rich repeat-containing protein 59 GN=Lrrc59 PE=2 SV=1 - [LRC59_MOUSE]	0	2	1	2	0	3	**1**	**7**	7.00	1.324E-02	34.9			✓				
340	P06151	LDHA	L-lactate dehydrogenase A chain GN=Ldha PE=1 SV=3 - [LDHA_MOUSE]	1	5	1	6	1	5	**3**	**16**	5.33	2.020E-04	36.5	✓			✓	✓	(6)(9)(23)(24)(26)	(17)
341	E9Q1P8	I2BP2	Interferon regulatory factor 2-binding protein 2 GN=Irf2bp2 PE=1 SV=1 - [I2BP2_MOUSE]	1	1	0	2	0	2	**1**	**5**	5.00	4.742E-02	59.3	✓					(23)	
342	D6REF7	D6REF7	Sphingosine-1-phosphate lyase 1 GN=Sgpl1 PE=3 SV=1 - [D6REF7_MOUSE]	1	6	2	5	1	7	**4**	**18**	4.50	2.192E-03	54.7			✓				
343	P18760	COF1	Cofilin-1 GN=Cfl1 PE=1 SV=3 - [COF1_MOUSE]	3	7	2	9	1	6	**6**	**22**	3.67	7.182E-03	18.5	✓			✓	✓	(14)(19)(23)(26)	
344	P08752	GNAI2	Guanine nucleotide-binding protein G(i) subunit alpha-2 GN=Gnai2 PE=1 SV=5 - [GNAI2_MO	1	3	1	5	1	3	**3**	**11**	3.67	1.613E-02	40.5	✓				✓	(20)(26)	
345	J3QPE8	J3QPE8	MCG16555 GN=Vdac3-ps1 PE=4 SV=1 - [J3QPE8_MOUSE]	4	8	1	8	2	8	**7**	**24**	3.43	3.016E-03	30.7	✓			✓	✓		
346	P68254-2	1433T	Isoform 2 of 14-3-3 protein theta GN=Ywhaq - [1433T_MOUSE]	1	7	1	4	3	6	**5**	**17**	3.40	2.239E-02	27.7	✓			✓	✓	(5)(8)(23)(26)	(17)
347	P51150	RAB7A	Ras-related protein Rab-7a GN=Rab7a PE=1 SV=2 - [RAB7A_MOUSE]	2	7	3	10	3	9	**8**	**26**	3.25	3.126E-03	23.5	✓						
348	P08113	ENPL	Endoplasmin GN=Hsp90b1 PE=1 SV=2 - [ENPL_MOUSE]	6	24	9	29	11	27	**26**	**80**	3.08	9.361E-04	92.4		✓					(16)(17)

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