

Supplementary material

A SARS-CoV-2 –human metalloproteome interaction map

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All metalloproteins

A/A	UniProt ID	Gene names	Protein names	Length
1	Q86VM9	ZC3H18 NHH1	Zinc finger CCGH domain-containing protein 18 (Nuclear protein NHH1)	953
2	O75439	PMPFCB MPBP	Mitochondrial-processing peptidase subunit beta (EC 3.4.24.64) (Beta-MPP) (P-52)	489
3	Q5JRX3	PITRM1 KIAA1104 MP1 PREP	Presequence protease, mitochondrial (hPreP) (EC 3.4.24.-) (Pitriysin metalloproteinase 1) (Metalloprotease 1) (hMP1)	1037
4	Q6PML9	SLC30A9 C4orf1 HUEL	Zinc transporter 9 (ZnT-9) (Human embryonic lung protein) (HuEL) (Solute carrier family 30 member 9)	568
5	Q8NEW0	SLC30A7 ZNT7 ZNTL2	Zinc transporter 7 (ZnT-7) (Solute carrier family 30 member 7) (ZnT-like transporter 2)	376
6	Q9JULX6	AKAPBL NAKAP NAKAP95 HRIHFB2018	A-kinase anchor protein 8-like (AKAP8-like protein) (Helicase A-binding protein 95) (HAP95) (Homologous to AKAP95 protein) (HA95) (Neighbor of A-kinase-anchoring protein 95) (Neighbor of AKAP95)	646
7	P67870	CSNK2B CK2N G5A	Casein kinase II subunit beta (CK II beta) (Phosvitin) (Protein G5a)	215
8	Q92900	UPF1 KIAA0221 RENT1	Regulator of nonsense transcripts 1 (EC 3.6.4.-) (ATP-dependent helicase RENT1) (Nonsense mRNA reducing factor 1) (NORF1) (Up-frameshift suppressor 1 homolog) (hUpf1)	1129
9	P09884	POLA1 POLA	DNA polymerase alpha catalytic subunit (EC 2.7.7.7) (DNA polymerase alpha catalytic subunit p180)	1462
10	P49642	PRIM1	DNA primase small subunit (EC 2.7.7.-) (DNA primase 49 kDa subunit) (p49)	420
11	P49643	PRIM2 PRIM2A	DNA primase large subunit (DNA primase 58 kDa subunit) (p58)	509
12	O43823	AKAP8 AKAP95	A-kinase anchor protein 8 (AKAP-8) (A-kinase anchor protein 95 kDa) (AKAP 95)	692
13	O75592	MYCBP2 KIAA0916 PAM	E3 ubiquitin-protein ligase MYCBP2 (EC 2.3.2.33) (Myc-binding protein 2) (Protein associated with Myc)	4678
14	Q95391	SLU7	Pre-mRNA-splicing factor SLU7 (hSlu7)	586
15	Q5VUA4	ZNF318 HRIHFB2436	Zinc finger protein 318 (Endocrine regulatory protein)	2279
16	Q8IWR0	ZC3H7A ZC3H7 ZC3HDC7 HSPC055	Zinc finger CCGH domain-containing protein 7A	971
17	A7MCMY6	TBKBP1 KIAA0775 SINTBAD	TANK-binding kinase 1-binding protein 1 (TBK1-binding protein 1)	615
18	O14578	CIT CRK KIAA0949 STK21	Citron Rho-interacting kinase (CRIK) (EC 2.7.11.1) (Serine/threonine-protein kinase 21)	2027
19	Q92995	USP13 ISOT3	Ubiquitin carboxyl-terminal hydrolase 13 (EC 3.4.19.12) (Deubiquitinating enzyme 13) (Isopeptidase T-3) (ISOT-3) (Ubiquitin thioesterase 13) (Ubiquitin-specific-processing protease 13)	863
20	Q9BQ03	GORASP1 GOLPH5 GRASP65	Golgi reassembly-stacking protein 1 (Golgi peripheral membrane protein p65) (Golgi phosphoprotein 5) (GOLPH5) (Golgi reassembly-stacking protein of 65 kDa) (GRASP65)	440
21	Q9BQ58	FYCO1 ZFYVE7	FYVE and coiled-coil domain-containing protein 1 (Zinc finger FYVE domain-containing protein 7)	1478
22	Q9NXA8	SIRT5 SIRT5L	NAD-dependent protein deacetylase sirtuin-5, mitochondrial (EC 2.3.1.-) (Regulatory protein SIR2 homolog 5) (SIR2-like protein 5)	310
23	Q9JH4P4	RNF41 FLRF NRD1 SB8103	E3 ubiquitin-protein ligase NRD1 (EC 2.3.2.27) (RING finger protein 41) (RING-type E3 ubiquitin transferase NRD1)	317
24	P14735	IDE	Insulin-degrading enzyme (EC 3.4.24.56) (Abeta-degrading protease) (Insulin protease) (Insulysin)	1019
25	P62072	TIMM10 TIM10	Mitochondrial import inner membrane translocase subunit Tim10	90
26	Q9Y516	TIMM10B FXC1 TIM9B TIMM9B	Mitochondrial import inner membrane translocase subunit Tim10 B (Fracture callus protein 1) (FxC1) (Mitochondrial import inner membrane translocase subunit Tim9 B) (TIMM10B) (Tim10b)	103
27	Q9Y517	TIM9B TIM9B TIM9A TIMM9A	Mitochondrial import inner membrane translocase subunit Tim9	89
28	Q9NXH9	TRMT1	tRNA (guanine(26)-N(2))-dimethyltransferase (EC 2.1.1.216) (tRNA 2,2-dimethylguanosine-26 methyltransferase) (tRNA(guanine-26,N(2)-N(2)) methyltransferase) (tRNA(m(2,2)G26)dimethyltransferase)	659
29	Q9H7F0	ATP13A3 AFUR51	Probable cation-transporting ATPase 13A3 (EC 7.2.2.-) (ATPase family homolog up-regulated in senescence cells 1)	1226
30	O43169	CYB5B CYB5M OMB5	Cytochrome b5 type B (Cytochrome b5 outer mitochondrial membrane isoform)	150
31	Q95573	ACSL3 ACS3 FACL3 LACS3	Long-chain-fatty-acid-CoA ligase 3 (EC 6.2.1.3) (Arachidonate-CoA ligase) (EC 6.2.1.15) (Long-chain acyl-CoA synthetase 3) (LACS 3)	720
32	P21964	COMT	Catechol O-methyltransferase (EC 2.1.1.6)	271
33	P61586	RHOA ARH12 ARHA RHO12	Transforming protein RhoA (EC 3.6.5.2) (Rho cDNA clone 12) (h12)	193
34	O96028	NSD2 KIAA1090 MMSET TRX5 WHSC1	Histone-lysine N-methyltransferase NSD2 (EC 2.1.1.356) (Multiple myeloma SET domain-containing protein) (MMSET) (Nuclear SET domain-containing protein 2) (Protein trithorax-5) (Wolf-Hirschhorn syndrome candidate 1 protein)	1365
35	Q86Y76	MIB1 DIP1 KIAA1323 ZZANK2	E3 ubiquitin-protein ligase MIB1 (EC 2.3.2.27) (DAPK-interacting protein 1) (DIP-1) (Mind bomb homolog 1) (RING-type E3 ubiquitin transferase MIB1) (Zinc finger ZZ type with ankyrin repeat domain protein 2)	1006
36	Q8TD19	NEK9 KIAA1995 NEK8 NERCC	Serine/threonine-protein kinase Nek9 (EC 2.7.11.1) (Necrcc1 kinase) (Never in mitosis A-related kinase 9) (NimA-related protein kinase 9) (NimA-related kinase 8) (Nek8)	979
37	Q96F45	ZNF503 NOLZ1	Zinc finger protein 503	646
38	Q9BU02	THTPA	Thiamine-triphosphatase (ThTPase) (EC 3.6.1.28)	230
39	Q9Y519	TIMM8B DDP2 DDPL TIM8B	Mitochondrial import inner membrane translocase subunit Tim8 B (DDP-like protein) (Deafness dystonia protein 2)	83
40	P62877	RBX1 RNF75 ROC1	E3 ubiquitin-protein ligase RBX1 (EC 2.3.2.27) (EC 2.3.2.32) (E3 ubiquitin-protein transferase RBX1) (Protein ZYP) (RING finger protein 75) (RING-box protein 1) (Rbx1) (Regulator of cullins 1) (ROC1) (Cleaved into: E3 ubiquitin-protein ligase RBX1, N-terminally processed) (E3 ubiquitin-protein transferase RBX1, N-terminally processed)	108
41	P09601	HMOX1 HO HO1	Heme oxygenase 1 (HO-1) (EC 1.14.14.18)	288
42	Q8IWR1	TRIM59 RNF104 TRIM57 TSBF1	Tripartite motif-containing protein 59 (RING finger protein 104) (Tumor suppressor TSBF-1)	403
43	Q9H270	VPS11 RNF108 PP3476	Vacuolar protein sorting-associated protein 11 homolog (hVPS11) (RING finger protein 108)	941
44	O00469	PLOD2	Procollagen-lysine,2-oxoglutarate 5-dioxygenase 2 (EC 1.14.11.4) (Lysyl hydroxylase 2) (LH2)	737
45	P05556	ITGB1 FNBR MDF2 MSK12	Integrin beta-1 (Fibronectin receptor subunit beta) (Glycoprotein Ila) (GPIIa) (VLA-4 subunit beta) (CD antigen CD29)	798
46	POC7P0	CISD3	CDGSH iron-sulfur domain-containing protein 3, mitochondrial (MitoNEET-related protein 2) (Miner2) (Mitochondrial inner NEET protein) (MINT)	127
47	P26358	DNMT1 AIM CXXC9 DNMT	DNA (cytosine-5)-methyltransferase 1 (Dnmt1) (EC 2.1.1.37) (CXXC-type zinc finger protein 9) (DNA methyltransferase Hsa1) (DNA MTase Hsa1) (M.Hsa1) (MCMT)	1616
48	P28300	LOX	Protein-lysine 6-oxidase (EC 1.4.3.13) (Lysyl oxidase) (Cleaved into: Protein-lysine 6-oxidase, long form; Protein-lysine 6-oxidase, short form)	417
49	Q96IV0	NGLY1 PNG1	Peptide-N(4)-(N-acetyl-beta-glucosaminyl)asparagine amidase (PNGase) (hPNGase) (EC 3.5.1.52) (N-glycanase 1) (Peptide-N-glycanase)	654
50	Q9H488	POFUT1 FUT12 KIAA0180	GDP-fucose protein O-fucosyltransferase 1 (EC 2.4.1.221) (Peptide-O-fucosyltransferase 1) (O-FucT-1)	388
51	Q9H8W4	PLEKHF2 ZFYVE18	Pleckstrin homology domain-containing family F member 2 (PH domain-containing family F member 2) (Endoplasmic reticulum-associated apoptosis-involved protein containing PH and FYVE domains) (EAPF) (PH and FYVE domain-containing protein 2) (Phafin-2) (Phafin2) (Zinc finger FYVE domain-containing protein 18)	249
52	Q9UHH8	ADAMTS1 KIAA1346 METH1	A disintegrin and metalloproteinase with thrombospondin motifs 1 (ADAM-TS 1) (ADAM-TS1) (ADAMTS-1) (EC 3.4.24.-) (METH-1)	967
53	Q13443	ADAM9 KIAA0021 MCMP MDC9 MLTNG	Disintegrin and metalloproteinase domain-containing protein 9 (ADAM 9) (EC 3.4.24.-) (Cellular disintegrin-related protein) (Meltrin-gamma) (Metalloprotease/disintegrin/cysteine-rich protein 9) (Myeloma cell metalloproteinase)	819
54	Q7KZ17	MARK2 EMK1	Serine/threonine-protein kinase MARK2 (EC 2.7.11.1) (EC 2.7.11.26) (ELK1 motif kinase 1) (EMK-1) (MAP/microtubule affinity-regulating kinase 2) (PAR1 homolog) (PAR1 homolog b) (Par-1b) (Par1b)	788
55	Q9H773	DCTPP1 XTP3TPA CDA03	dCTP pyrophosphatase 1 (EC 3.6.1.12) (Deoxycytidine-triphosphatase 1) (dCTPase 1) (RS21C6) (XTP3-transactivated gene A protein)	170
56	Q9P0L2	MARK1 KIAA1477 MARK	Serine/threonine-protein kinase MARK1 (EC 2.7.11.1) (EC 2.7.11.26) (MAP/microtubule affinity-regulating kinase 1) (PAR1 homolog c) (Par-1c) (Par1c)	795
57	Q6NXT4	SLC30A6 ZNT6	Zinc transporter 6 (ZnT-6) (Solute carrier family 30 member 6)	461
58	Q7Z2K6	ERMP1 FXNA KIAA1815	Endoplasmic reticulum metallopeptidase 1 (EC 3.4.-.-) (Felix-ina)	904

Zn proteins				
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1	Q9UHI8	ADAMT51 KIAA1346 METH1	A disintegrin and metalloproteinase with thrombospondin motifs 1 (ADAM-TS 1) (ADAM-TS1) (ADAMTS-1) (EC 3.4.24.-) (METH-1)	967
2	Q43823	AKAP8 AKAP95	A-kinase anchor protein 8 (AKAP-8) (A-kinase anchor protein 95 kDa) (AKAP 95)	692
3	Q9ULX6	AKAPBL NAKAP NAKAP95 HRIHF82018	A-kinase anchor protein 8-like (AKAP8-like protein) (Helicase A-binding protein 95) (HAP95) (Homologous to AKAP95 protein) (HA95) (Neighbor of A-kinase-anchoring protein 95) (Neighbor of AKAP95)	646
4	P67870	CSNK2B CK2N G5A	Casein kinase II subunit beta (CK II beta) (Phosvitin) (Protein G5a)	215
5	Q14578	CIT CRIK KIAO0949 STK21	Citron Rho-interacting kinase (CRIK) (EC 2.7.11.1) (Serine/threonine-protein kinase 21)	2027
6	Q13443	ADAM9 KIAA0021 MCMP MDC9 MLTNG	Disintegrin and metalloproteinase domain-containing protein 9 (ADAM 9) (EC 3.4.24.-) (Cellular disintegrin-related protein) (Meltrin-gamma) (Metalloprotease/disintegrin/cysteine-rich protein 9) (Myeloma cell metalloproteinase)	819
7	P26358	DNMT1 AIM CXC9 DNMT	DNA (cytosine-5)-methyltransferase 1 (Dnmt1) (EC 2.1.1.37) (CXXC-type zinc finger protein 9) (DNA methyltransferase Hsa1) (DNA MTase Hsa1) (M.Hsa1) (MCMT)	1616
8	P09884	POLA1 POLA	DNA polymerase alpha catalytic subunit (EC 2.7.7.7) (DNA polymerase alpha catalytic subunit p180)	1462
9	P49642	PRIM1	DNA primase small subunit (EC 2.7.7.-) (DNA primase 49 kDa subunit) (p49)	420
10	Q86Y76	MIB1 DIP1 KIAA1323 ZZANK2	E3 ubiquitin-protein ligase MIB1 (EC 2.3.2.27) (DAPK-interacting protein 1) (DIP-1) (Mind bomb homolog 1) (RING-type E3 ubiquitin transferase MIB1) (Zinc finger ZZ type with ankyrin repeat domain protein 2)	1006
11	Q75592	MYCBP2 KIAA0916 PAM	E3 ubiquitin-protein ligase MYCBP2 (EC 2.3.2.33) (Myc-binding protein 2) (Protein associated with Myc)	4678
12	Q9H4P4	RNF41 FLRF NRDP1 SBB103	E3 ubiquitin-protein ligase NRDP1 (EC 2.3.2.27) (RING finger protein 41) (RING-type E3 ubiquitin transferase NRDP1)	317
13	P62877	RBX1 RNF75 ROC1	E3 ubiquitin-protein ligase RBX1 (EC 2.3.2.27) (EC 2.3.2.32) (E3 ubiquitin-protein transferase RBX1) (Protein ZYP) (RING finger protein 75) (RING-box protein 1) (Rbx1) (Regulator of cullins 1) (ROC1) (Cleaved into: E3 ubiquitin-protein ligase RBX1, N-terminally processed (E3 ubiquitin-protein transferase RBX1, N-terminally processed)	108
14	Q722K6	ERMP1 FXNA KIAA1815	Endoplasmic reticulum metalloproteinase 1 (EC 3.4.-.-) (Felix-ina)	904
15	Q9BQ58	FYCO1 ZFVVE7	FVVE and coiled-coil domain-containing protein 1 (Zinc finger FVVE domain-containing protein 7)	1478
16	Q9BQ03	GORASP1 GOLPH5 GRASP65	Golgi reassembly-stacking protein 1 (Golgi peripheral membrane protein p65) (Golgi phosphoprotein 5) (GOLPH5) (Golgi reassembly-stacking protein of 65 kDa) (GRASP65)	440
17	Q96028	NSD2 KIAA1090 MMSET TRX5 WHSC1	Histone-lysine N-methyltransferase NSD2 (EC 2.1.1.356) (Multiple myeloma SET domain-containing protein) (MMSET) (Nuclear SET domain-containing protein 2) (Protein trithorax-5) (Wolf-Hirschhorn syndrome candidate 1 protein)	1365
18	P14735	IDF	Insulin-degrading enzyme (EC 3.4.24.56) (Abeta-degrading protease) (Insulin protease) (Insulysin) (Insulysin)	1019
19	P62072	TIMM10 TIM10	Mitochondrial import inner membrane translocase subunit Tim10	90
20	Q9Y516	TIMM10B FXC1 TIM9B TIMM9B	Mitochondrial import inner membrane translocase subunit Tim10 B (Fracture callus protein 1) (FxC1) (Mitochondrial import inner membrane translocase subunit Tim9 B) (TIMM10B) (Tim10b)	103
21	Q9Y519	TIMM8B DDP2 DDPL TIM8B	Mitochondrial import inner membrane translocase subunit Tim8 B (DDP-like protein) (Deafness dystonia protein 2)	83
22	Q9Y517	TIMM9 TIM9 TIM9A TIMM9A	Mitochondrial import inner membrane translocase subunit Tim9	89
23	O75439	PMPCB MPPB	Mitochondrial-processing peptidase subunit beta (EC 3.4.24.64) (Beta-MPP) (P-52)	489
24	Q9XNA8	SIRTS SIR2L5	NAD-dependent protein deacetylase sirtuin-5, mitochondrial (EC 2.3.1.-) (Regulatory protein SIR2 homolog 5) (SIR2-like protein 5)	310
25	Q9DIV0	NGLY1 PNG1	Peptide-N(4)-[N-acetyl-beta-D-glucosaminyl]asparagine amidase (PNGase) (hPNGase) (EC 3.5.1.52) (N-glycanase 1) (Peptide-N-glycanase)	654
26	Q9H8W4	PLEKHF2 ZFVVE18	Pleckstrin homology domain-containing family F member 2 (PH domain-containing family F member 2) (Endoplasmic reticulum-associated apoptosis-involved protein containing PH and FVVE domains) (EAPF) (PH and FVVE domain-containing protein 2) (Phafin-2) (Phafin2) (Zinc finger FVVE domain-containing protein 18)	249
27	O95391	SLU7	Pre-mRNA-splicing factor SLU7 (hSlu7)	586
28	Q5JR3X	PITRM1 KIAA1104 MP1 PREP	Presequence protease, mitochondrial (hPreP) (EC 3.4.24.-) (Pitriylsin metalloproteinase 1) (Metalloprotease 1) (hMP1)	1037
29	Q92900	UPF1 KIAA0221 RENT1	Regulator of nonsense transcripts 1 (EC 3.6.4.-) (ATP-dependent helicase RENT1) (Nonsense mRNA reducing factor 1) (NORF1) (Up-frameshift suppressor 1 homolog) (hUpf1)	1129
30	A7MCM6	TBKBP1 KIAA0775 SINTBAD	TANK-binding kinase 1-binding protein 1 (TBK1-binding protein 1)	615
31	Q81WR1	TRIM59 RNF104 TRIM57 TSBF1	Tripartite motif-containing protein 59 (RING finger protein 104) (Tumor suppressor TSBF-1)	403
32	Q9XNH9	TRMT1	tRNA (guanine(26)-N(2))-dimethyltransferase (EC 2.1.1.216) (tRNA 2,2-dimethylguanosine-26 methyltransferase) (tRNA(m(26)G26)dimethyltransferase)	659
33	Q92995	USP13 ISOT3	Ubiquitin carboxyl-terminal hydrolase 13 (EC 3.4.19.12) (Deubiquitinating enzyme 13) (Isopetidase T-3) (ISOT-3) (Ubiquitin thioesterase 13) (Ubiquitin-specific-processing protease 13)	863
34	Q9HF20	VPS11 RNF108 PP3476	Vacuolar protein sorting-associated protein 11 homolog (hVPS11) (RING finger protein 108)	941
35	Q86VM9	ZC3H18 NHN1	Zinc finger CCH domain-containing protein 18 (Nuclear protein NHN1)	953
36	Q81WR0	ZC3H7A ZC3H7 ZC3HDC7 HSPC055	Zinc finger CCH domain-containing protein 7A	971
37	Q5VUA4	ZNF318 HRIHF82436	Zinc finger protein 318 (Endocrine regulatory protein)	2279
38	Q96F45	ZNF503 NOLZ1	Zinc finger protein 503	646
39	Q6NXT4	SLC30A6 ZNT6	Zinc transporter 6 (ZnT-6) (Solute carrier family 30 member 6)	461
40	Q8NEV0	SLC30A7 ZNT7 ZNTL2	Zinc transporter 7 (ZnT-7) (Solute carrier family 30 member 7) (ZnT-like transporter 2)	376
41	Q6PML9	SLC30A9 C4orf1 HUJEL	Zinc transporter 9 (ZnT-9) (Human embryonic lung protein) (HuEL) (Solute carrier family 30 member 9)	568

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A/A	UniProt ID	Gene names	Protein names	Length
1	O00469	PLOD2	Procollagen-lysine,2-oxoglutarate 5-dioxygenase 2 (EC 1.14.11.4) (Lysyl hydroxylase 2) (LH2)	737
2	P09601	HMOX1 HO HO1	Heme oxygenase 1 (HO-1) (EC 1.14.14.18)	288
3	P09884	POLA1 POLA	DNA polymerase alpha catalytic subunit (EC 2.7.7.7) (DNA polymerase alpha catalytic subunit p180)	1462
4	Q43169	CYB5B CYB5M OMB5	Cytochrome b5 type B (Cytochrome b5 outer mitochondrial membrane isoform)	150
5	P49643	PRIM2 PRIM2A	DNA primase large subunit (DNA primase 58 kDa subunit) (p58)	509
6	POC7P0	CISD3	CDGS8 iron-sulfur domain-containing protein 3, mitochondrial (MitoNEET-related protein 2) (Miner2) (Mitochondrial inner NEET protein) (MINT)	127

Mg proteins				
A/A	UniProt ID	Gene names	Protein names	Length
1	P61586	RHOA ARH12 ARHA RHO12	Transforming protein RhoA (EC 3.6.5.2) (Rho cDNA clone 12) (h12)	193
2	O95573	ACSL3 ACS3 FAFL3 LACS3	Long-chain-fatty-acid-CoA ligase 3 (EC 6.2.1.3) (Arachidonate-CoA ligase) (EC 6.2.1.15) (Long-chain acyl-CoA synthetase 3) (LACS 3)	720
3	Q8TD19	NEK9 KIAA1995 NEK8 NERCC	Serine/threonine-protein kinase Nek9 (EC 2.7.11.1) (Necrk1 kinase) (Never in mitosis A-related kinase 9) (NimA-related protein kinase 9) (NimA-related kinase 8) (Nek8)	979
4	Q7KZ17	MARK2 EMK1	Serine/threonine-protein kinase MARK2 (EC 2.7.11.1) (EC 2.7.11.26) (ELKL motif kinase 1) (EMK-1) (MAP/microtubule affinity-regulating kinase 2) (PAR1 homolog) (PAR1 homolog b) (Par-1b) (Par1b)	788
5	Q9P0L2	MARK1 KIAA1477 MARK	Serine/threonine-protein kinase MARK1 (EC 2.7.11.1) (EC 2.7.11.26) (MAP/microtubule affinity-regulating kinase 1) (PAR1 homolog c) (Par-1c) (Par1c)	795
6	P05556	ITGB1 FNBR MDF2 MSK12	Integrin beta-1 (Fibronectin receptor subunit beta) (Glycoprotein IIa) (GPIIa) (VLA-4 subunit beta) (CD antigen CD29)	798
7	Q9BU02	THTPA	Thiamine-triphosphatase (ThTPase) (EC 3.6.1.28)	230
8	P21964	COMT	Catechol O-methyltransferase (EC 2.1.1.6)	271
9	Q9H7F0	ATP13A3 AFURS1	Probable cation-transporting ATPase 13A3 (EC 7.2.2.-) (ATPase family homolog up-regulated in senescence cells 1)	1226
10	Q9H773	DCTPP1 XTP3TPA CDA03	dCTP pyrophosphatase 1 (EC 3.6.1.12) (Deoxycytidine-triphosphatase 1) (dCTPase 1) (RS21C6) (XTP3-transactivated gene A protein)	170

Mn proteins				
A/A	UniProt ID	Gene names	Protein names	Length
1	Q9H488	POFUT1 FUT12 KIAA0180	GDP-fucose protein O-fucosyltransferase 1 (EC 2.4.1.221) (Peptide-O-fucosyltransferase 1) (O-FucT-1)	388

Cu proteins				
A/A	UniProt ID	Gene names	Protein names	Length
1	P28300	LOX	Protein-lysine 6-oxidase (EC 1.4.3.13) (Lysyl oxidase) (Cleaved into: Protein-lysine 6-oxidase, long form; Protein-lysine 6-oxidase, short form)	417