

Table S4. List of proteins that are higher in Dicer-deficient NSCs.							
Enriched Biological Processes by Gene Ontology							
Term	Accession	Protein names	Genes	prot_score_WT	prot_score_KO	prot_matches_WT	prot_matches_KO
small GTPase mediated signal transduction	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
	Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
	Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
	P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	Q99MK9	Ras association domain-containing protein 1 (Protein 123F2)	Rassf1	0	29	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12	

	Q8BPU7	Engulfment and cell motility protein 1 (CED-12 homolog)	Elmo1	0	64	0	12
	P14685	26S proteasome non-ATPase regulatory subunit 3 (26S proteasome regulatory subunit S3) (Proteasome subunit p58) (Transplantation antigen P91A) (Tum-P91A antigen)	Psmd3 (P91a) (Tstap91a)	0	25	0	12
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	Q80TE4	Signal-induced proliferation-associated 1-like protein 2 (SIPA1-like protein 2)	Sipa1l2 (Kiaa0545)	0	36	0	16
	Q3UTH8	Rho guanine nucleotide exchange factor 9 (Rac/Cdc42 guanine nucleotide exchange factor 9) (Collybistin)	Arhgef9 (Kiaa0424)	0	31	0	17
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
regulation of transport	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
	Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem142a)	0	33	0	5
	P57780	Alpha-actinin-4 (Non-muscle alpha-actinin 4) (F-actin cross-linking protein)	Actn4	0	34	0	10
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12

	O08532	Voltage-dependent calcium channel subunit alpha-2/delta-1 (Voltage-gated calcium channel subunit alpha-2/delta-1) [Cleaved into: Voltage-dependent calcium channel subunit alpha-2-1; Voltage-dependent calcium channel subunit delta-1]	Cacna2d1 (Cacna2)	0	25	0	26
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
signal transduction	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	Q91WW3	Mas-related G-protein coupled receptor member A3	Mrgpra3 (Mrga3)	0	26	0	3
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
	Q62252	Sperm surface protein Sp17 (Sperm autoantigenic protein 17)	Spa17 (Sp17)	0	29	0	4
	P70677	Caspase-3 (CASP-3) (EC 3.4.22.56) (Apopain) (Cysteine protease CPP32) (CPP-32) (Yama protein) (SREBP cleavage activity 1) (SCA-1) (LICE) [Cleaved into: Caspase-3 subunit p17; Caspase-3 subunit p12]	Casp3 (Cp32)	0	29	0	5
	Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5

Q99K90	Mitogen-activated protein kinase kinase kinase 7-interacting protein 2 (TAK1-binding protein 2) (TAB2)	Map3k7ip2 (Kiaa0733) (Tab2)	0	25	0	5
P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6
Q9Z2Y3	Homer protein homolog 1 (VASP/Ena-related gene up-regulated during seizure and LTP) (Vesl-1)	Homer1 (Vesl1)	0	30	0	6
P27612	Phospholipase A-2-activating protein (PLAP)	Plaa (Plap)	0	27	0	6
P63330	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform (PP2A-alpha) (EC 3.1.3.16)	Ppp2ca	0	101	0	6
Q9ERZ4	Muscarinic acetylcholine receptor M2	Chrm2 (Chrm-2)	0	31	0	8
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
O88907	E3 SUMO-protein ligase PIAS1 (Protein inhibitor of activated STAT protein 1) (DEAD/H box-binding protein 1)	Pias1 (Ddxbp1)	0	31	0	9
Q8BWW9	Serine/threonine-protein kinase N2 (EC 2.7.11.13) (Protein kinase C-like 2) (Protein-kinase C-related kinase 2)	Pkn2 (Prkcl2)	0	25	0	9
P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P36898	Bone morphogenetic protein receptor type-1B (EC 2.7.11.30) (Serine/threonine-protein kinase receptor R6) (SKR6) (Activin receptor-like kinase 6) (ALK-6) (CD antigen CDw293)	Bmpr1b (Acvrlk6)	0	26	0	10
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11

Q99MK9	Ras association domain-containing protein 1 (Protein 123F2)	Rassf1	0	29	0	11
P35917	Vascular endothelial growth factor receptor 3 (VEGFR-3) (EC 2.7.10.1) (Tyrosine-protein kinase receptor FLT4)	Flt4 (Flt-4)	0	34	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
Q8BPU7	Engulfment and cell motility protein 1 (CED-12 homolog)	Elmo1	0	64	0	12
Q8CG03	cGMP-specific 3',5'-cyclic phosphodiesterase (EC 3.1.4.35) (cGMP-binding cGMP-specific phosphodiesterase) (CGB-PDE)	Pde5a (Pde5)	0	65	0	12
P14685	26S proteasome non-ATPase regulatory subunit 3 (26S proteasome regulatory subunit S3) (Proteasome subunit p58) (Transplantation antigen P91A) (Tum-P91A antigen)	Psmc3 (P91a) (Tstap91a)	0	25	0	12
P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
Q63844	Mitogen-activated protein kinase 3 (EC 2.7.11.24) (Extracellular signal-regulated kinase 1) (ERK-1) (Insulin-stimulated MAP2 kinase) (MAP kinase 1) (MAPK 1) (p44-ERK1) (ERT2) (p44-MAPK) (Microtubule-associated protein 2 kinase) (MNK1)	Mapk3 (Erk1) (Prkm3)	0	37	0	14
P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
P05622	Beta-type platelet-derived growth factor receptor (EC 2.7.10.1) (PDGF-R-beta) (CD140 antigen-like family member B) (CD antigen CD140b)	Pdgfrb (Pdgfr)	0	34	0	16
Q80TE4	Signal-induced proliferation-associated 1-like protein 2 (SIPA1-like protein 2)	Sipa1l2 (Kiaa0545)	0	36	0	16

P35918	Vascular endothelial growth factor receptor 2 (VEGFR-2) (EC 2.7.10.1) (Protein-tyrosine kinase receptor flk-1) (Fetal liver kinase 1) (Kinase NYK) (CD antigen CD309)	Kdr (Flk-1) (Flk1)	0	34	0	16
Q3UTH8	Rho guanine nucleotide exchange factor 9 (Rac/Cdc42 guanine nucleotide exchange factor 9) (Collybistin)	Arhgef9 (Kiaa0424)	0	31	0	17
Q62383	Transcription elongation factor SPT6	Supt6h (Kiaa0162)	0	28	0	17
P83510	Traf2 and NCK-interacting protein kinase (EC 2.7.11.1)	Tnik (Kiaa0551)	0	54	0	17
P63085	Mitogen-activated protein kinase 1 (EC 2.7.11.24) (Extracellular signal-regulated kinase 2) (ERK-2) (Mitogen-activated protein kinase 2) (MAP kinase 2) (MAPK 2) (p42-MAPK) (ERT1)	Mapk1 (Erk2) (Mapk) (Prkm1)	0	112	0	19
Q80U72	Protein LAP4 (Protein scribble homolog)	Scrib (Kiaa0147) (Lap4) (Scrib1)	0	29	0	22
P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
Q7SIG6	Development and differentiation-enhancing factor 2 (Pyk2 C-terminus-associated protein) (PAP) (Paxillin-associated protein with ARFGAP activity 3) (PAG3)	Ddef2 (Gm1523) (Gm592)	36	43	7	17
Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
P11679	Keratin, type II cytoskeletal 8 (Cytokeratin-8) (CK-8) (Keratin-8) (K8) (Cytokeratin endo A)	Krt8 (Krt2-8)	61	175	13	29
Q80YX1	Tenascin (TN) (Tenascin-C) (TN-C) (Hexabrachion)	Tnc (Hxb)	80	200	22	45
P12815	Programmed cell death protein 6 (Probable calcium-binding protein ALG-2) (PMP41) (ALG-257)	Pdcd6 (Alg2)	42	19	1	2

	Q61481	Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase 1A (Cam-PDE 1A) (EC 3.1.4.17) (61 kDa Cam-PDE)	Pde1a	21	30	3	6
intracellular signaling cascade	Q35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
	P70677	Caspase-3 (CASP-3) (EC 3.4.22.56) (Apopain) (Cysteine protease CPP32) (CPP-32) (Yama protein) (SREBP cleavage activity 1) (SCA-1) (LICE) [Cleaved into: Caspase-3 subunit p17; Caspase-3 subunit p12]	Casp3 (Cp32)	0	29	0	5
	Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
	Q99K90	Mitogen-activated protein kinase kinase kinase 7-interacting protein 2 (TAK1-binding protein 2) (TAB2)	Map3k7ip2 (Kiaa0733) (Tab2)	0	25	0	5
P63330	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform (PP2A-alpha) (EC 3.1.3.16)	Ppp2ca	0	101	0	6	
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8	

O88907	E3 SUMO-protein ligase PIAS1 (Protein inhibitor of activated STAT protein 1) (DEAD/H box-binding protein 1)	Pias1 (Ddxbp1)	0	31	0	9
P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q99MK9	Ras association domain-containing protein 1 (Protein 123F2)	Rassf1	0	29	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
Q8BPU7	Engulfment and cell motility protein 1 (CED-12 homolog)	Elmo1	0	64	0	12
P14685	26S proteasome non-ATPase regulatory subunit 3 (26S proteasome regulatory subunit S3) (Proteasome subunit p58) (Transplantation antigen P91A) (Tum-P91A antigen)	Psmc3 (P91a) (Tstap91a)	0	25	0	12
P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
Q80TE4	Signal-induced proliferation-associated 1-like protein 2 (SIPA1-like protein 2)	Sipa1l2 (Kiaa0545)	0	36	0	16
Q3UTH8	Rho guanine nucleotide exchange factor 9 (Rac/Cdc42 guanine nucleotide exchange factor 9) (Collybistin)	Arhgef9 (Kiaa0424)	0	31	0	17
Q62383	Transcription elongation factor SPT6	Supt6h (Kiaa0162)	0	28	0	17

	P83510	Traf2 and NCK-interacting protein kinase (EC 2.7.11.1)	Tnik (Kiaa0551)	0	54	0	17
	P63085	Mitogen-activated protein kinase 1 (EC 2.7.11.24) (Extracellular signal-regulated kinase 2) (ERK-2) (Mitogen-activated protein kinase 2) (MAP kinase 2) (MAPK 2) (p42-MAPK) (ERT1)	Mapk1 (Erk2) (Mapk) (Prkm1)	0	112	0	19
	Q80U72	Protein LAP4 (Protein scribble homolog)	Scrib (Kiaa0147) (Lap4) (Scrib1)	0	29	0	22
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	P12815	Programmed cell death protein 6 (Probable calcium-binding protein ALG-2) (PMP41) (ALG-257)	Pdcd6 (Alg2)	42	19	1	2
cell communication	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	O70492	Sorting nexin-3 (SDP3 protein)	Snx3	0	54	0	2
	Q91WW3	Mas-related G-protein coupled receptor member A3	Mrgpra3 (Mrga3)	0	26	0	3
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4

P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
Q62252	Sperm surface protein Sp17 (Sperm autoantigenic protein 17)	Spa17 (Sp17)	0	29	0	4
P70677	Caspase-3 (CASP-3) (EC 3.4.22.56) (Apopain) (Cysteine protease CPP32) (CPP-32) (Yama protein) (SREBP cleavage activity 1) (SCA-1) (LICE) [Cleaved into: Caspase-3 subunit p17; Caspase-3 subunit p12]	Casp3 (Cp32)	0	29	0	5
Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
Q99K90	Mitogen-activated protein kinase kinase kinase 7-interacting protein 2 (TAK1-binding protein 2) (TAB2)	Map3k7ip 2 (Kiaa0733) (Tab2)	0	25	0	5
P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6
Q9Z2Y3	Homer protein homolog 1 (VASP/Ena-related gene up-regulated during seizure and LTP) (Vesl-1)	Homer1 (Vesl1)	0	30	0	6
P27612	Phospholipase A-2-activating protein (PLAP)	Plaa (Plap)	0	27	0	6
P63330	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform (PP2A-alpha) (EC 3.1.3.16)	Ppp2ca	0	101	0	6
Q9ERZ4	Muscarinic acetylcholine receptor M2	Chrm2 (Chrm-2)	0	31	0	8
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
O88907	E3 SUMO-protein ligase PIAS1 (Protein inhibitor of activated STAT protein 1) (DEAD/H box-binding protein 1)	Pias1 (Ddxbp1)	0	31	0	9
Q8BWW9	Serine/threonine-protein kinase N2 (EC 2.7.11.13) (Protein kinase C-like 2) (Protein-kinase C-related kinase 2)	Pkn2 (Prkcl2)	0	25	0	9

P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P36898	Bone morphogenetic protein receptor type-1B (EC 2.7.11.30) (Serine/threonine-protein kinase receptor R6) (SKR6) (Activin receptor-like kinase 6) (ALK-6) (CD antigen CDw293)	Bmpr1b (Acvrlk6)	0	26	0	10
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q99MK9	Ras association domain-containing protein 1 (Protein 123F2)	Rassf1	0	29	0	11
P35917	Vascular endothelial growth factor receptor 3 (VEGFR-3) (EC 2.7.10.1) (Tyrosine-protein kinase receptor FLT4)	Flt4 (Flt-4)	0	34	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
Q8BPU7	Engulfment and cell motility protein 1 (CED-12 homolog)	Elmo1	0	64	0	12
Q8CG03	cGMP-specific 3',5'-cyclic phosphodiesterase (EC 3.1.4.35) (cGMP-binding cGMP-specific phosphodiesterase) (CGB-PDE)	Pde5a (Pde5)	0	65	0	12
P14685	26S proteasome non-ATPase regulatory subunit 3 (26S proteasome regulatory subunit S3) (Proteasome subunit p58) (Transplantation antigen P91A) (Tum-P91A antigen)	Psm3 (P91a) (Tstap91a)	0	25	0	12
P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13

Q63844	Mitogen-activated protein kinase 3 (EC 2.7.11.24) (Extracellular signal-regulated kinase 1) (ERK-1) (Insulin-stimulated MAP2 kinase) (MAP kinase 1) (MAPK 1) (p44-ERK1) (ERT2) (p44-MAPK) (Microtubule-associated protein 2 kinase) (MNK1)	Mapk3 (Erk1) (Prkm3)	0	37	0	14
P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
P05622	Beta-type platelet-derived growth factor receptor (EC 2.7.10.1) (PDGF-R-beta) (CD140 antigen-like family member B) (CD antigen CD140b)	Pdgfrb (Pdgfr)	0	34	0	16
Q80TE4	Signal-induced proliferation-associated 1-like protein 2 (SIPA1-like protein 2)	Sipa1l2 (Kiaa0545)	0	36	0	16
P35918	Vascular endothelial growth factor receptor 2 (VEGFR-2) (EC 2.7.10.1) (Protein-tyrosine kinase receptor flk-1) (Fetal liver kinase 1) (Kinase NYK) (CD antigen CD309)	Kdr (Flk-1) (Flk1)	0	34	0	16
Q3UTH8	Rho guanine nucleotide exchange factor 9 (Rac/Cdc42 guanine nucleotide exchange factor 9) (Collybistin)	Arhgef9 (Kiaa0424)	0	31	0	17
Q62383	Transcription elongation factor SPT6	Supt6h (Kiaa0162)	0	28	0	17
P83510	Traf2 and NCK-interacting protein kinase (EC 2.7.11.1)	Tnik (Kiaa0551)	0	54	0	17
P63085	Mitogen-activated protein kinase 1 (EC 2.7.11.24) (Extracellular signal-regulated kinase 2) (ERK-2) (Mitogen-activated protein kinase 2) (MAP kinase 2) (MAPK 2) (p42-MAPK) (ERT1)	Mapk1 (Erk2) (Mapk) (Prkm1)	0	112	0	19
Q80U72	Protein LAP4 (Protein scribble homolog)	Scrib (Kiaa0147) (Lap4) (Scrib1)	0	29	0	22
P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8

	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q7SIG6	Development and differentiation-enhancing factor 2 (Pyk2 C-terminus-associated protein) (PAP) (Paxillin-associated protein with ARFGAP activity 3) (PAG3)	Ddef2 (Gm1523) (Gm592)	36	43	7	17
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	P11679	Keratin, type II cytoskeletal 8 (Cytokeratin-8) (CK-8) (Keratin-8) (K8) (Cytokeratin endo A)	Krt8 (Krt2-8)	61	175	13	29
	Q80YX1	Tenascin (TN) (Tenascin-C) (TN-C) (Hexabrachion)	Tnc (Hxb)	80	200	22	45
	P12815	Programmed cell death protein 6 (Probable calcium-binding protein ALG-2) (PMP41) (ALG-257)	Pdcd6 (Alg2)	42	19	1	2
	Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
	Q61481	Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase 1A (Cam-PDE 1A) (EC 3.1.4.17) (61 kDa Cam-PDE)	Pde1a	21	30	3	6
protein transport	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	O70492	Sorting nexin-3 (SDP3 protein)	Snx3	0	54	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
	Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5

	P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7
	P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdia)	0	56	0	7
	Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
	P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
	P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	Q8R1U1	Conserved oligomeric Golgi complex subunit 4 (COG complex subunit 4) (Component of oligomeric Golgi complex 4)	Cog4	0	27	0	16
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q99PW8	Kinesin-like protein KIF17 (MmKIF17)	Kif17	24	44	13	35
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
establishment of protein localization	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	O70492	Sorting nexin-3 (SDP3 protein)	Snx3	0	54	0	2

P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7
P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdia)	0	56	0	7
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13

	Q8R1U1	Conserved oligomeric Golgi complex subunit 4 (COG complex subunit 4) (Component of oligomeric Golgi complex 4)	Cog4	0	27	0	16
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q99PW8	Kinesin-like protein KIF17 (MmKIF17)	Kif17	24	44	13	35
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
secretion	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
	O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
macromolecule localization	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2

P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
O70492	Sorting nexin-3 (SDP3 protein)	Snx3	0	54	0	2
P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7
P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdia)	0	56	0	7
P35922	Fragile X mental retardation protein 1 homolog (Protein FMR-1) (FMRP) (mFmr1p)	Fmr1 (Fmr-1)	0	36	0	8
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651)) (Lbcl1) (Lfc)	0	31	0	12

	P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	Q8R1U1	Conserved oligomeric Golgi complex subunit 4 (COG complex subunit 4) (Component of oligomeric Golgi complex 4)	Cog4	0	27	0	16
	Q80U72	Protein LAP4 (Protein scribble homolog)	Scrib (Kiaa0147) (Lap4) (Scrib1)	0	29	0	22
	Q91ZD4	Vang-like protein 2 (Van Gogh-like protein 2) (Loop-tail-associated protein) (Loop-tail protein 1)	Vangl2 (Lpp1) (Ltap)	0	27	0	31
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q99PW8	Kinesin-like protein KIF17 (MmKIF17)	Kif17	24	44	13	35
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	O55029	Coatamer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
biological regulation	Q91ZR3	CREB/ATF bZIP transcription factor (Host cell factor-binding transcription factor Zhangfei) (HCF-binding transcription factor Zhangfei) (Tyrosine kinase-associated leucine zipper protein LAZip)	Crebzf (Zf)	0	36	0	1
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P21107	Tropomyosin alpha-3 chain (Tropomyosin-3) (Gamma-tropomyosin)	Tpm3 (Tpm-5) (Tpm5)	0	32	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3

Q8CDN6	Thioredoxin-like protein 1 (32 kDa thioredoxin-related protein)	Txn1 (Trp32) (Txnl)	0	173	0	3
Q8K0V4	CCR4-NOT transcription complex subunit 3 (CCR4-associated factor 3)	Cnot3 (Not3)	0	27	0	4
Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
Q80TJ7	PHD finger protein 8	Phf8 (Kiaa1111)	0	25	0	4
P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
Q7TPD3	Roundabout homolog 2	Robo2 (Kiaa1568)	0	30	0	4
O35490	Betaine--homocysteine S-methyltransferase 1 (EC 2.1.1.5)	Bhmt	0	28	0	5
P70677	Caspase-3 (CASP-3) (EC 3.4.22.56) (Apopain) (Cysteine protease CPP32) (CPP-32) (Yama protein) (SREBP cleavage activity 1) (SCA-1) (LICE) [Cleaved into: Caspase-3 subunit p17; Caspase-3 subunit p12]	Casp3 (Cp32)	0	29	0	5
Q9DBY5	Chromobox protein homolog 6	Cbx6	0	26	0	5
Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem142a)	0	33	0	5
Q60668	Heterogeneous nuclear ribonucleoprotein D0 (hnRNP D0) (AU-rich element RNA-binding protein 1)	Hnrnpd (Auf1) (Hnrpd)	0	34	0	5
P09103	Protein disulfide-isomerase (PDI) (EC 5.3.4.1) (Prolyl 4-hydroxylase subunit beta) (Cellular thyroid hormone-binding protein) (p55) (Erp59)	P4hb (Pdia1)	0	28	0	5
P58389	Serine/threonine-protein phosphatase 2A regulatory subunit B' (PP2A, subunit B', PR53 isoform) (Phosphotyrosyl phosphatase activator) (PTPA)	Ppp2r4 (Ptpa)	0	32	0	5

Q99K90	Mitogen-activated protein kinase kinase kinase 7-interacting protein 2 (TAK1-binding protein 2) (TAB2)	Map3k7ip2 (Kiaa0733) (Tab2)	0	25	0	5
Q9ER58	Testican-2 (SPARC/osteonectin, CWCV, and Kazal-like domains proteoglycan 2)	Spock2 (Ticn2)	0	26	0	5
Q7TM95	Tigger transposable element-derived protein 3	Tigd3	0	26	0	5
P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6
Q91X20	Set1/Ash2 histone methyltransferase complex subunit ASH2 (ASH2-like protein)	Ash2l	0	26	0	6
P63330	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform (PP2A-alpha) (EC 3.1.3.16)	Ppp2ca	0	101	0	6
P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7
P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdia)	0	56	0	7
Q99K48	Non-POU domain-containing octamer-binding protein (NonO protein)	Nono	0	41	0	7
Q99JX1	Transcription initiation factor TFIID subunit 11 (Transcription initiation factor TFIID 28 kDa subunit) (TAF(II)28) (TAFII-28) (TAFII28) (TFIID subunit p30-beta)	Taf11	0	37	0	7
Q715T0	Thioredoxin domain-containing protein 3 (Spermatid-specific thioredoxin-2) (Sptrx-2)	Txndc3 (Sptrx2)	0	25	0	7
Q7TPR4	Alpha-actinin-1 (Alpha-actinin cytoskeletal isoform) (Non-muscle alpha-actinin-1) (F-actin cross-linking protein)	Actn1	0	34	0	8
Q9DAR7	Scavenger mRNA-decapping enzyme DcpS (EC 3.-.-) (DCS-1) (Hint-related 7meGMP-directed hydrolase) (Histidine triad protein member 5) (HINT-5)	Dcps (Dcs1) (Hint5)	0	76	0	8

P47857	6-phosphofructokinase, muscle type (EC 2.7.1.11) (Phosphofructokinase 1) (Phosphohexokinase) (Phosphofructo-1-kinase isozyme A) (PFK-A) (Phosphofructokinase-M)	Pfkm (Pfk-m) (Pfka)	0	64	0	8
Q9D0D5	General transcription factor IIE subunit 1 (Transcription initiation factor IIE subunit alpha) (TFIIE-alpha) (General transcription factor IIE 56 kDa subunit)	Gtf2e1	0	27	0	8
P07356	Annexin A2 (Annexin-2) (Annexin II) (Lipocortin II) (Calpactin I heavy chain) (Chromobindin-8) (p36) (Protein I) (Placental anticoagulant protein IV) (PAP-IV)	Anxa2 (Anx2) (Cal1h)	0	51	0	9
P60762	Mortality factor 4-like protein 1 (MORF-related gene 15 protein) (Transcription factor-like protein MRG15) (Testis-expressed gene 189 protein)	Morf411 (Mrg15) (Tex189)	0	33	0	9
O88907	E3 SUMO-protein ligase PIAS1 (Protein inhibitor of activated STAT protein 1) (DEAD/H box-binding protein 1)	Pias1 (Ddxbp1)	0	31	0	9
P15806	Transcription factor E2-alpha (Immunoglobulin enhancer-binding factor E12/E47) (Transcription factor 3) (TCF-3) (Transcription factor A1)	Tcf3 (Alf2) (Me2) (Tcfe2a)	0	28	0	9
P57780	Alpha-actinin-4 (Non-muscle alpha-actinin 4) (F-actin cross-linking protein)	Actn4	0	34	0	10
P36898	Bone morphogenetic protein receptor type-1B (EC 2.7.11.30) (Serine/threonine-protein kinase receptor R6) (SKR6) (Activin receptor-like kinase 6) (ALK-6) (CD antigen CDw293)	Bmpr1b (Acvrlk6)	0	26	0	10
Q80Y50	Calmodulin-binding transcription activator 2	Camta2 (Kiaa0909)	0	26	0	10
Q61823	Programmed cell death protein 4 (Topoisomerase-inhibitor suppressed protein) (Protein MA-3)	Pdcd4 (Ma3) (Tis)	0	27	0	10
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11

Q99MK9	Ras association domain-containing protein 1 (Protein 123F2)	Rassf1	0	29	0	11
Q9Z1Y4	Thyroid receptor-interacting protein 6 (TRIP-6) (Zyxin-related protein 1) (ZRP-1)	Trip6 (Zrp1)	0	34	0	11
P35917	Vascular endothelial growth factor receptor 3 (VEGFR-3) (EC 2.7.10.1) (Tyrosine-protein kinase receptor FLT4)	Flt4 (Flt-4)	0	34	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
P27773	Protein disulfide-isomerase A3 (EC 5.3.4.1) (Disulfide isomerase ER-60) (ERp60) (58 kDa microsomal protein) (p58) (ERp57)	Pdia3 (Erp) (Erp60) (Grp58)	0	98	0	14
Q9CWI3	BRCA2 and CDKN1A-interacting protein	Bccip	0	28	0	15
P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
P05622	Beta-type platelet-derived growth factor receptor (EC 2.7.10.1) (PDGF-R-beta) (CD140 antigen-like family member B) (CD antigen CD140b)	Pdgfrb (Pdgfr)	0	34	0	16
Q80TE4	Signal-induced proliferation-associated 1-like protein 2 (SIPA1-like protein 2)	Sipa1l2 (Kiaa0545)	0	36	0	16
P08071	Lactotransferrin (Lactoferrin) (EC 3.4.21.-)	Ltf	0	25	0	16
P35918	Vascular endothelial growth factor receptor 2 (VEGFR-2) (EC 2.7.10.1) (Protein-tyrosine kinase receptor flk-1) (Fetal liver kinase 1) (Kinase NYK) (CD antigen CD309)	Kdr (Flk-1) (Flk1)	0	34	0	16
Q3UTH8	Rho guanine nucleotide exchange factor 9 (Rac/Cdc42 guanine nucleotide exchange factor 9) (Collybistin)	Arhgef9 (Kiaa0424)	0	31	0	17

Q80XI3	Eukaryotic translation initiation factor 4 gamma 3 (eIF-4-gamma 3) (eIF-4G 3) (eIF4G 3) (eIF-4-gamma II) (eIF4GII)	Eif4g3	0	58	0	17
Q62383	Transcription elongation factor SPT6	Supt6h (Kiaa0162)	0	28	0	17
P63085	Mitogen-activated protein kinase 1 (EC 2.7.11.24) (Extracellular signal-regulated kinase 2) (ERK-2) (Mitogen-activated protein kinase 2) (MAP kinase 2) (MAPK 2) (p42-MAPK) (ERT1)	Mapk1 (Erk2) (Mapk) (Prkm1)	0	112	0	19
Q810T2	G2/mitotic-specific cyclin-B3	Ccnb3 (Cycb3)	0	29	0	22
Q91YR7	Pre-mRNA-processing factor 6 (U5 snRNP-associated 102 kDa protein) (U5-102 kDa protein) (PRP6 homolog)	Prpf6	0	25	0	22
Q62468	Villin-1	Vil1 (Vil)	0	26	0	22
Q8BHZ4	Zinc finger protein 592 (Zfp-592)	Znf592 (Kiaa0211) (Zfp592)	0	26	0	24
O08532	Voltage-dependent calcium channel subunit alpha-2/delta-1 (Voltage-gated calcium channel subunit alpha-2/delta-1) [Cleaved into: Voltage-dependent calcium channel subunit alpha-2-1; Voltage-dependent calcium channel subunit delta-1]	Cacna2d1 (Cacna2)	0	25	0	26
Q9EQM6	Protein DGCR8 (DiGeorge syndrome critical region 8 homolog) (Gy1)	Dgcr8	0	28	0	29
Q69ZM6	Serine/threonine-protein kinase 36 (EC 2.7.11.1) (Fused homolog)	Stk36 (Kiaa1278)	0	29	0	35
Q9CQM9	Glutaredoxin-3 (Thioredoxin-like protein 2) (PKC-interacting cousin of thioredoxin) (PKC-theta-interacting protein) (PKCq-interacting protein)	Glrx3 (Picot) (Txnl2)	17	77	3	11

P48036	Annexin A5 (Annexin-5) (Annexin V) (Lipocortin V) (Endonexin II) (Calphobindin I) (CBP-I) (Placental anticoagulant protein I) (PAP-I) (Placental anticoagulant protein 4) (PP4) (Thromboplastin inhibitor) (Vascular anticoagulant-alpha) (VAC-alpha) (Anchorin CII)	Anxa5 (Anx5)	36	202	5	16
P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
Q7SIG6	Development and differentiation-enhancing factor 2 (Pyk2 C-terminus-associated protein) (PAP) (Paxillin-associated protein with ARFGAP activity 3) (PAG3)	Ddef2 (Gm1523) (Gm592)	36	43	7	17
Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
Q99020	Heterogeneous nuclear ribonucleoprotein A/B (hnRNP A/B) (CArG-binding factor-A) (CBF-A)	Hnrnpab (Cbf-a) (Cgbfa) (Hnrpab)	56	138	5	11
Q9R244	Short transient receptor potential channel 2 (TrpC2) (Transient receptor protein 2) (TRP-2) (mTrp2)	Trpc2 (Trp2) (Trrp2)	25	55	45	92
P12815	Programmed cell death protein 6 (Probable calcium-binding protein ALG-2) (PMP41) (ALG-257)	Pdcd6 (Alg2)	42	19	1	2
Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
Q08024	Core-binding factor subunit beta (CBF-beta) (Polyomavirus enhancer-binding protein 2 beta subunit) (PEBP2-beta) (PEA2-beta) (SL3-3 enhancer factor 1 subunit beta) (SL3/AKV core-binding factor beta subunit)	Cbfb (Pebp2b) (Pebpb2)	26	188	2	4
P63028	Translationally-controlled tumor protein (TCTP) (p23) (21 kDa polypeptide) (p21)	Tpt1 (Trt)	92	216	4	8
P47878	Insulin-like growth factor-binding protein 3 (IGF-binding protein 3) (IGFBP-3) (IBP-3)	Igfbp3 (Igfbp-3)	18	26	5	10
P34022	Ran-specific GTPase-activating protein (Ran-binding protein 1) (RANBP1) (Hpal1 tiny fragments locus 9a protein)	Ranbp1 (Htf9-a) (Htf9a)	49	24	5	10

	Q9WTR1	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (Osm-9-like TRP channel 2) (OTRPC2) (Growth factor-regulated calcium channel) (GRC)	Trpv2 (Grc)	22	30	5	10
	Q62318	Transcription intermediary factor 1-beta (TIF1-beta) (Tripartite motif-containing protein 28) (KRAB-A-interacting protein) (KRIP-1)	Trim28 (Krip1) (Tif1b)	24	84	10	20
protein localization	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	O70492	Sorting nexin-3 (SDP3 protein)	Snx3	0	54	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
	Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
	P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7
	P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdia)	0	56	0	7
	Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10

	P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
	P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	Q8R1U1	Conserved oligomeric Golgi complex subunit 4 (COG complex subunit 4) (Component of oligomeric Golgi complex 4)	Cog4	0	27	0	16
	Q80U72	Protein LAP4 (Protein scribble homolog)	Scrib (Kiaa0147) (Lap4) (Scrib1)	0	29	0	22
	Q91ZD4	Vang-like protein 2 (Van Gogh-like protein 2) (Loop-tail-associated protein) (Loop-tail protein 1)	Vangl2 (Lpp1) (Ltap)	0	27	0	31
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q99PW8	Kinesin-like protein KIF17 (MmKIF17)	Kif17	24	44	13	35
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
secretory pathway	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10

	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
	O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
secretion by cell	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
	O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
	establishment of localization	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0
Q91V41		Ras-related protein Rab-14	Rab14	0	53	0	2
Q9JKM7		Ras-related protein Rab-37	Rab37	0	53	0	2
P62823		Ras-related protein Rab-3C	Rab3c	0	53	0	2
O70492		Sorting nexin-3 (SDP3 protein)	Snx3	0	54	0	2
P14231		Sodium/potassium-transporting ATPase subunit beta-2 (Sodium/potassium-dependent ATPase subunit beta-2) (Glial cell adhesion molecule) (AMOG)	Atp1b2	0	26	0	3
P11404		Fatty acid-binding protein, heart (Heart-type fatty acid-binding protein) (H-FABP) (Mammary-derived growth inhibitor) (MDGI)	Fabp3 (Fabph1)	0	25	0	3
P61027		Ras-related protein Rab-10	Rab10	0	82	0	3

Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
Q8CDN6	Thioredoxin-like protein 1 (32 kDa thioredoxin-related protein)	Txn11 (Trp32) (Txnl)	0	173	0	3
P26883	Peptidyl-prolyl cis-trans isomerase FKBP1A (PPIase FKBP1A) (EC 5.2.1.8) (FK506-binding protein 1A) (FKBP-1A) (Rotamase) (Immunophilin FKBP12) (12 kDa FKBP) (FKBP-12)	Fkbp1a (Fkbp1)	0	55	0	4
Q61792	LIM and SH3 domain protein 1 (LASP-1) (MLN 50)	Lasp1 (Mln50)	0	72	0	4
Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem14 2a)	0	33	0	5
Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6
P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7

P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdia)	0	56	0	7
P35922	Fragile X mental retardation protein 1 homolog (Protein FMR-1) (FMRP) (mFmr1p)	Fmr1 (Fmr-1)	0	36	0	8
Q9R1P4	Proteasome subunit alpha type-1 (EC 3.4.25.1) (Proteasome component C2) (Macropain subunit C2) (Multicatalytic endopeptidase complex subunit C2) (Proteasome nu chain)	Psm1	0	95	0	8
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
P57780	Alpha-actinin-4 (Non-muscle alpha-actinin 4) (F-actin cross-linking protein)	Actn4	0	34	0	10
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
Q8BPU7	Engulfment and cell motility protein 1 (CED-12 homolog)	Elmo1	0	64	0	12
P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
P97855	Ras GTPase-activating protein-binding protein 1 (EC 3.6.1.-) (G3BP-1) (ATP-dependent DNA helicase VIII) (HDH-VIII) (GAP SH3 domain-binding protein 1)	G3bp1 (G3bp)	0	75	0	15
P28738	Kinesin heavy chain isoform 5C (Kinesin heavy chain neuron-specific 2)	Kif5c (Nkhc2)	0	66	0	15

P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
Q8R1U1	Conserved oligomeric Golgi complex subunit 4 (COG complex subunit 4) (Component of oligomeric Golgi complex 4)	Cog4	0	27	0	16
P08071	Lactotransferrin (Lactoferrin) (EC 3.4.21.-)	Ltf	0	25	0	16
P33175	Kinesin heavy chain isoform 5A (Neuronal kinesin heavy chain) (NKHC) (Kinesin heavy chain neuron-specific 1)	Kif5a (Kiaa4086) (Kif5) (Nkhc1)	0	66	0	20
Q9QXL2	Kinesin-like protein KIF21A	Kif21a (Kiaa1708)	0	45	0	23
Q9WVL3	Solute carrier family 12 member 7 (Electroneutral potassium-chloride cotransporter 4) (K-Cl cotransporter 4)	Slc12a7 (Kcc4)	0	27	0	24
O08532	Voltage-dependent calcium channel subunit alpha-2/delta-1 (Voltage-gated calcium channel subunit alpha-2/delta-1) [Cleaved into: Voltage-dependent calcium channel subunit alpha-2-1; Voltage-dependent calcium channel subunit delta-1]	Cacna2d1 (Cacna2)	0	25	0	26
P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
Q99PW8	Kinesin-like protein KIF17 (MmKIF17)	Kif17	24	44	13	35
Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
O35066	Kinesin-like protein KIF3C	Kif3c	23	37	8	18
Q9R244	Short transient receptor potential channel 2 (TrpC2) (Transient receptor protein 2) (TRP-2) (mTrp2)	Trpc2 (Trp2) (Trrp2)	25	55	45	92
Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
O35239	Tyrosine-protein phosphatase non-receptor type 9 (EC 3.1.3.48) (Protein-tyrosine phosphatase MEG2) (PTPase-MEG2)	Ptpn9	17	29	2	4

	Q9R155	Pendrin (Sodium-independent chloride/iodide transporter) (Solute carrier family 26 member 4)	Slc26a4 (Pds)	32	18	3	6
	O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
	P34022	Ran-specific GTPase-activating protein (Ran-binding protein 1) (RANBP1) (HpaII tiny fragments locus 9a protein)	Ranbp1 (Htf9-a) (Htf9a)	49	24	5	10
	Q9WTR1	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (Osm-9-like TRP channel 2) (OTRPC2) (Growth factor-regulated calcium channel) (GRC)	Trpv2 (Grc)	22	30	5	10
	Q9JJZ2	Tubulin alpha-8 chain (Alpha-tubulin 8)	Tuba8	428	841	25	50
transport	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	O70492	Sorting nexin-3 (SDP3 protein)	Snx3	0	54	0	2
	P14231	Sodium/potassium-transporting ATPase subunit beta-2 (Sodium/potassium-dependent ATPase subunit beta-2) (Glial cell adhesion molecule) (AMOG)	Atp1b2	0	26	0	3
	P11404	Fatty acid-binding protein, heart (Heart-type fatty acid-binding protein) (H-FABP) (Mammary-derived growth inhibitor) (MDGI)	Fabp3 (Fabph1)	0	25	0	3
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q8CDN6	Thioredoxin-like protein 1 (32 kDa thioredoxin-related protein)	Txn11 (Trp32) (Txnl)	0	173	0	3

P26883	Peptidyl-prolyl cis-trans isomerase FKBP1A (PPlase FKBP1A) (EC 5.2.1.8) (FK506-binding protein 1A) (FKBP-1A) (Rotamase) (Immunophilin FKBP12) (12 kDa FKBP) (FKBP-12)	Fkbp1a (Fkbp1)	0	55	0	4
Q61792	LIM and SH3 domain protein 1 (LASP-1) (MLN 50)	Lasp1 (Mln50)	0	72	0	4
Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem14 2a)	0	33	0	5
Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7
P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdia)	0	56	0	7
P35922	Fragile X mental retardation protein 1 homolog (Protein FMR-1) (FMRP) (mFmr1p)	Fmr1 (Fmr-1)	0	36	0	8
Q9R1P4	Proteasome subunit alpha type-1 (EC 3.4.25.1) (Proteasome component C2) (Macropain subunit C2) (Multicatalytic endopeptidase complex subunit C2) (Proteasome nu chain)	Psm1	0	95	0	8
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9

P57780	Alpha-actinin-4 (Non-muscle alpha-actinin 4) (F-actin cross-linking protein)	Actn4	0	34	0	10
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbc1) (Lfc)	0	31	0	12
Q8BPU7	Engulfment and cell motility protein 1 (CED-12 homolog)	Elmo1	0	64	0	12
P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
P97855	Ras GTPase-activating protein-binding protein 1 (EC 3.6.1.-) (G3BP-1) (ATP-dependent DNA helicase VIII) (HDH-VIII) (GAP SH3 domain-binding protein 1)	G3bp1 (G3bp)	0	75	0	15
P28738	Kinesin heavy chain isoform 5C (Kinesin heavy chain neuron-specific 2)	Kif5c (Nkhc2)	0	66	0	15
P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
Q8R1U1	Conserved oligomeric Golgi complex subunit 4 (COG complex subunit 4) (Component of oligomeric Golgi complex 4)	Cog4	0	27	0	16
P08071	Lactotransferrin (Lactoferrin) (EC 3.4.21.-)	Ltf	0	25	0	16
P33175	Kinesin heavy chain isoform 5A (Neuronal kinesin heavy chain) (NKHC) (Kinesin heavy chain neuron-specific 1)	Kif5a (Kiaa4086) (Kif5) (Nkhc1)	0	66	0	20
Q9QXL2	Kinesin-like protein KIF21A	Kif21a (Kiaa1708)	0	45	0	23

Q9WVL3	Solute carrier family 12 member 7 (Electroneutral potassium-chloride cotransporter 4) (K-Cl cotransporter 4)	Slc12a7 (Kcc4)	0	27	0	24
O08532	Voltage-dependent calcium channel subunit alpha-2/delta-1 (Voltage-gated calcium channel subunit alpha-2/delta-1) [Cleaved into: Voltage-dependent calcium channel subunit alpha-2-1; Voltage-dependent calcium channel subunit delta-1]	Cacna2d1 (Cacna2)	0	25	0	26
P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
Q99PW8	Kinesin-like protein KIF17 (MmKIF17)	Kif17	24	44	13	35
Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
O35066	Kinesin-like protein KIF3C	Kif3c	23	37	8	18
Q9R244	Short transient receptor potential channel 2 (TrpC2) (Transient receptor protein 2) (TRP-2) (mTrp2)	Trpc2 (Trp2) (Trrp2)	25	55	45	92
Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
O35239	Tyrosine-protein phosphatase non-receptor type 9 (EC 3.1.3.48) (Protein-tyrosine phosphatase MEG2) (PTPase-MEG2)	Ptpn9	17	29	2	4
Q9R155	Pendrin (Sodium-independent chloride/iodide transporter) (Solute carrier family 26 member 4)	Slc26a4 (Pds)	32	18	3	6
O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
P34022	Ran-specific GTPase-activating protein (Ran-binding protein 1) (RANBP1) (Hpal1 tiny fragments locus 9a protein)	Ranbp1 (Htf9-a) (Htf9a)	49	24	5	10
Q9WTR1	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (Osm-9-like TRP channel 2) (OTRPC2) (Growth factor-regulated calcium channel) (GRC)	Trpv2 (Grc)	22	30	5	10
Q9JJZ2	Tubulin alpha-8 chain (Alpha-tubulin 8)	Tuba8	428	841	25	50

regulation of biological quality	Q8CDN6	Thioredoxin-like protein 1 (32 kDa thioredoxin-related protein)	Txn11 (Trp32) (Txnl)	0	173	0	3
	P70677	Caspase-3 (CASP-3) (EC 3.4.22.56) (Apopain) (Cysteine protease CPP32) (CPP-32) (Yama protein) (SREBP cleavage activity 1) (SCA-1) (LICE) [Cleaved into: Caspase-3 subunit p17; Caspase-3 subunit p12]	Casp3 (Cp32)	0	29	0	5
	Q60668	Heterogeneous nuclear ribonucleoprotein D0 (hnRNP D0) (AU-rich element RNA-binding protein 1)	Hnrnpd (Auf1) (Hnrpd)	0	34	0	5
	P09103	Protein disulfide-isomerase (PDI) (EC 5.3.4.1) (Prolyl 4-hydroxylase subunit beta) (Cellular thyroid hormone-binding protein) (p55) (Erp59)	P4hb (Pdia1)	0	28	0	5
	P63330	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform (PP2A-alpha) (EC 3.1.3.16)	Ppp2ca	0	101	0	6
	Q715T0	Thioredoxin domain-containing protein 3 (Spermatid-specific thioredoxin-2) (Sptrx-2)	Txndc3 (Sptrx2)	0	25	0	7
	Q9DAR7	Scavenger mRNA-decapping enzyme DcpS (EC 3.-.-.) (DCS-1) (Hint-related 7meGMP-directed hydrolase) (Histidine triad protein member 5) (HINT-5)	Dcps (Dcs1) (Hint5)	0	76	0	8
	P07356	Annexin A2 (Annexin-2) (Annexin II) (Lipocortin II) (Calpactin I heavy chain) (Chromobindin-8) (p36) (Protein I) (Placental anticoagulant protein IV) (PAP-IV)	Anxa2 (Anx2) (Cal1h)	0	51	0	9
	P60762	Mortality factor 4-like protein 1 (MORF-related gene 15 protein) (Transcription factor-like protein MRG15) (Testis-expressed gene 189 protein)	Morf4l1 (Mrg15) (Tex189)	0	33	0	9
	P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12

	P27773	Protein disulfide-isomerase A3 (EC 5.3.4.1) (Disulfide isomerase ER-60) (ERp60) (58 kDa microsomal protein) (p58) (ERp57)	Pdia3 (Erp) (Erp60) (Grp58)	0	98	0	14
	P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
	P08071	Lactotransferrin (Lactoferrin) (EC 3.4.21.-)	Ltf	0	25	0	16
	P35918	Vascular endothelial growth factor receptor 2 (VEGFR-2) (EC 2.7.10.1) (Protein-tyrosine kinase receptor flk-1) (Fetal liver kinase 1) (Kinase NYK) (CD antigen CD309)	Kdr (Flk-1) (Flk1)	0	34	0	16
	Q62468	Villin-1	Vil1 (Vil)	0	26	0	22
	Q9CQM9	Glutaredoxin-3 (Thioredoxin-like protein 2) (PKC-interacting cousin of thioredoxin) (PKC-theta-interacting protein) (PKCq-interacting protein)	Glrx3 (Picot) (Txnl2)	17	77	3	11
	P48036	Annexin A5 (Annexin-5) (Annexin V) (Lipocortin V) (Endonexin II) (Calphobindin I) (CBP-I) (Placental anticoagulant protein I) (PAP-I) (Placental anticoagulant protein 4) (PP4) (Thromboplastin inhibitor) (Vascular anticoagulant-alpha) (VAC-alpha) (Anchorin CII)	Anxa5 (Anx5)	36	202	5	16
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	Q9R244	Short transient receptor potential channel 2 (TrpC2) (Transient receptor protein 2) (TRP-2) (mTrp2)	Trpc2 (Trp2) (Trrp2)	25	55	45	92
	P47878	Insulin-like growth factor-binding protein 3 (IGF-binding protein 3) (IGFBP-3) (IBP-3)	Igfbp3 (Igfbp-3)	18	26	5	10
vesicle-mediated transport	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3

	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
	P57780	Alpha-actinin-4 (Non-muscle alpha-actinin 4) (F-actin cross-linking protein)	Actn4	0	34	0	10
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	Q8BPU7	Engulfment and cell motility protein 1 (CED-12 homolog)	Elmo1	0	64	0	12
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q99PW8	Kinesin-like protein KIF17 (MmKIF17)	Kif17	24	44	13	35
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
	O55029	Coatamer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
localization	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	O70492	Sorting nexin-3 (SDP3 protein)	Snx3	0	54	0	2
	P14231	Sodium/potassium-transporting ATPase subunit beta-2 (Sodium/potassium-dependent ATPase subunit beta-2) (Glial cell adhesion molecule) (AMOG)	Atp1b2	0	26	0	3
	P11404	Fatty acid-binding protein, heart (Heart-type fatty acid-binding protein) (H-FABP) (Mammary-derived growth inhibitor) (MDGI)	Fabp3 (Fabph1)	0	25	0	3
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3

P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
Q8CDN6	Thioredoxin-like protein 1 (32 kDa thioredoxin-related protein)	Txn1 (Trp32) (Txnl)	0	173	0	3
P26883	Peptidyl-prolyl cis-trans isomerase FKBP1A (PPIase FKBP1A) (EC 5.2.1.8) (FK506-binding protein 1A) (FKBP-1A) (Rotamase) (Immunophilin FKBP12) (12 kDa FKBP) (FKBP-12)	Fkbp1a (Fkbp1)	0	55	0	4
Q61792	LIM and SH3 domain protein 1 (LASP-1) (MLN 50)	Lasp1 (Mln50)	0	72	0	4
Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
Q7TPD3	Roundabout homolog 2	Robo2 (Kiaa1568)	0	30	0	4
Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem142a)	0	33	0	5
Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6
P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7

P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdia)	0	56	0	7
Q7TPR4	Alpha-actinin-1 (Alpha-actinin cytoskeletal isoform) (Non-muscle alpha-actinin-1) (F-actin cross-linking protein)	Actn1	0	34	0	8
P35922	Fragile X mental retardation protein 1 homolog (Protein FMR-1) (FMRP) (mFmr1p)	Fmr1 (Fmr-1)	0	36	0	8
Q9R1P4	Proteasome subunit alpha type-1 (EC 3.4.25.1) (Proteasome component C2) (Macropain subunit C2) (Multicatalytic endopeptidase complex subunit C2) (Proteasome nu chain)	Psma1	0	95	0	8
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
P57780	Alpha-actinin-4 (Non-muscle alpha-actinin 4) (F-actin cross-linking protein)	Actn4	0	34	0	10
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
Q8BPU7	Engulfment and cell motility protein 1 (CED-12 homolog)	Elmo1	0	64	0	12
P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
P97855	Ras GTPase-activating protein-binding protein 1 (EC 3.6.1.-) (G3BP-1) (ATP-dependent DNA helicase VIII) (HDH-VIII) (GAP SH3 domain-binding protein 1)	G3bp1 (G3bp)	0	75	0	15

P28738	Kinesin heavy chain isoform 5C (Kinesin heavy chain neuron-specific 2)	Kif5c (Nkhc2)	0	66	0	15
P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
Q8R1U1	Conserved oligomeric Golgi complex subunit 4 (COG complex subunit 4) (Component of oligomeric Golgi complex 4)	Cog4	0	27	0	16
P08071	Lactotransferrin (Lactoferrin) (EC 3.4.21.-)	Ltf	0	25	0	16
P35918	Vascular endothelial growth factor receptor 2 (VEGFR-2) (EC 2.7.10.1) (Protein-tyrosine kinase receptor flk-1) (Fetal liver kinase 1) (Kinase NYK) (CD antigen CD309)	Kdr (Flk-1) (Flk1)	0	34	0	16
P33175	Kinesin heavy chain isoform 5A (Neuronal kinesin heavy chain) (NKHC) (Kinesin heavy chain neuron-specific 1)	Kif5a (Kiaa4086) (Kif5) (Nkhc1)	0	66	0	20
Q80U72	Protein LAP4 (Protein scribble homolog)	Scrib (Kiaa0147) (Lap4) (Scrib1)	0	29	0	22
Q9QXL2	Kinesin-like protein KIF21A	Kif21a (Kiaa1708)	0	45	0	23
Q9WVL3	Solute carrier family 12 member 7 (Electroneutral potassium-chloride cotransporter 4) (K-Cl cotransporter 4)	Slc12a7 (Kcc4)	0	27	0	24
O08532	Voltage-dependent calcium channel subunit alpha-2/delta-1 (Voltage-gated calcium channel subunit alpha-2/delta-1) [Cleaved into: Voltage-dependent calcium channel subunit alpha-2-1; Voltage-dependent calcium channel subunit delta-1]	Cacna2d1 (Cacna2)	0	25	0	26
Q91ZD4	Vang-like protein 2 (Van Gogh-like protein 2) (Loop-tail-associated protein) (Loop-tail protein 1)	Vangl2 (Lpp1) (Ltap)	0	27	0	31
P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8

	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q99PW8	Kinesin-like protein KIF17 (MmKIF17)	Kif17	24	44	13	35
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	O35066	Kinesin-like protein KIF3C	Kif3c	23	37	8	18
	Q9R244	Short transient receptor potential channel 2 (TrpC2) (Transient receptor protein 2) (TRP-2) (mTrp2)	Trpc2 (Trp2) (Trrp2)	25	55	45	92
	Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
	O35239	Tyrosine-protein phosphatase non-receptor type 9 (EC 3.1.3.48) (Protein-tyrosine phosphatase MEG2) (PTPase-MEG2)	Ptpn9	17	29	2	4
	Q9R155	Pendrin (Sodium-independent chloride/iodide transporter) (Solute carrier family 26 member 4)	Slc26a4 (Pds)	32	18	3	6
	O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
	P34022	Ran-specific GTPase-activating protein (Ran-binding protein 1) (RANBP1) (Hpal1 tiny fragments locus 9a protein)	Ranbp1 (Htf9-a) (Htf9a)	49	24	5	10
	Q9WTR1	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (Osm-9-like TRP channel 2) (OTRPC2) (Growth factor-regulated calcium channel) (GRC)	Trpv2 (Grc)	22	30	5	10
	Q9JJZ2	Tubulin alpha-8 chain (Alpha-tubulin 8)	Tuba8	428	841	25	50
regulation of biological process	Q91ZR3	CREB/ATF bZIP transcription factor (Host cell factor-binding transcription factor Zhangfei) (HCF-binding transcription factor Zhangfei) (Tyrosine kinase-associated leucine zipper protein LAZip)	Crebzf (Zf)	0	36	0	1
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P21107	Tropomyosin alpha-3 chain (Tropomyosin-3) (Gamma-tropomyosin)	Tpm3 (Tpm-5) (Tpm5)	0	32	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3

P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
Q8K0V4	CCR4-NOT transcription complex subunit 3 (CCR4-associated factor 3)	Cnot3 (Not3)	0	27	0	4
Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
Q80TJ7	PHD finger protein 8	Phf8 (Kiaa1111)	0	25	0	4
P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
Q7TPD3	Roundabout homolog 2	Robo2 (Kiaa1568)	0	30	0	4
O35490	Betaine--homocysteine S-methyltransferase 1 (EC 2.1.1.5)	Bhmt	0	28	0	5
P70677	Caspase-3 (CASP-3) (EC 3.4.22.56) (Apopain) (Cysteine protease CPP32) (CPP-32) (Yama protein) (SREBP cleavage activity 1) (SCA-1) (LICE) [Cleaved into: Caspase-3 subunit p17; Caspase-3 subunit p12]	Casp3 (Cp32)	0	29	0	5
Q9DBY5	Chromobox protein homolog 6	Cbx6	0	26	0	5
Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem142a)	0	33	0	5
Q60668	Heterogeneous nuclear ribonucleoprotein D0 (hnRNP D0) (AU-rich element RNA-binding protein 1)	Hnrnpd (Auf1) (Hnrpd)	0	34	0	5
P58389	Serine/threonine-protein phosphatase 2A regulatory subunit B' (PP2A, subunit B', PR53 isoform) (Phosphotyrosyl phosphatase activator) (PTPA)	Ppp2r4 (Ptpa)	0	32	0	5
Q99K90	Mitogen-activated protein kinase kinase kinase 7-interacting protein 2 (TAK1-binding protein 2) (TAB2)	Map3k7ip2 (Kiaa0733) (Tab2)	0	25	0	5

Q9ER58	Testican-2 (SPARC/osteonectin, CWCV, and Kazal-like domains proteoglycan 2)	Spock2 (Ticn2)	0	26	0	5
Q7TM95	Tigger transposable element-derived protein 3	Tigd3	0	26	0	5
P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6
Q91X20	Set1/Ash2 histone methyltransferase complex subunit ASH2 (ASH2-like protein)	Ash2l	0	26	0	6
P63330	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform (PP2A-alpha) (EC 3.1.3.16)	Ppp2ca	0	101	0	6
P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7
Q99K48	Non-POU domain-containing octamer-binding protein (NonO protein)	Nono	0	41	0	7
Q99JX1	Transcription initiation factor TFIID subunit 11 (Transcription initiation factor TFIID 28 kDa subunit) (TAF(II)28) (TAFII-28) (TAFII28) (TFIID subunit p30-beta)	Taf11	0	37	0	7
Q7TPR4	Alpha-actinin-1 (Alpha-actinin cytoskeletal isoform) (Non-muscle alpha-actinin-1) (F-actin cross-linking protein)	Actn1	0	34	0	8
Q9DAR7	Scavenger mRNA-decapping enzyme DcpS (EC 3.-.-.) (DCS-1) (Hint-related 7meGMP-directed hydrolase) (Histidine triad protein member 5) (HINT-5)	Dcps (Dcs1) (Hint5)	0	76	0	8
P47857	6-phosphofructokinase, muscle type (EC 2.7.1.11) (Phosphofructokinase 1) (Phosphohexokinase) (Phosphofructo-1-kinase isozyme A) (PFK-A) (Phosphofructokinase-M)	Pfkm (Pfk-m) (Pfka)	0	64	0	8
Q9D0D5	General transcription factor IIE subunit 1 (Transcription initiation factor IIE subunit alpha) (TFIIE-alpha) (General transcription factor IIE 56 kDa subunit)	Gtf2e1	0	27	0	8

P07356	Annexin A2 (Annexin-2) (Annexin II) (Lipocortin II) (Calpactin I heavy chain) (Chromobindin-8) (p36) (Protein I) (Placental anticoagulant protein IV) (PAP-IV)	Anxa2 (Anx2) (Cal1h)	0	51	0	9
P60762	Mortality factor 4-like protein 1 (MORF-related gene 15 protein) (Transcription factor-like protein MRG15) (Testis-expressed gene 189 protein)	Morf4l1 (Mrg15) (Tex189)	0	33	0	9
O88907	E3 SUMO-protein ligase PIAS1 (Protein inhibitor of activated STAT protein 1) (DEAD/H box-binding protein 1)	Pias1 (Ddxbp1)	0	31	0	9
P15806	Transcription factor E2-alpha (Immunoglobulin enhancer-binding factor E12/E47) (Transcription factor 3) (TCF-3) (Transcription factor A1)	Tcf3 (Alf2) (Me2) (Tcfe2a)	0	28	0	9
P57780	Alpha-actinin-4 (Non-muscle alpha-actinin 4) (F-actin cross-linking protein)	Actn4	0	34	0	10
P36898	Bone morphogenetic protein receptor type-1B (EC 2.7.11.30) (Serine/threonine-protein kinase receptor R6) (SKR6) (Activin receptor-like kinase 6) (ALK-6) (CD antigen CDw293)	Bmpr1b (Acvrlk6)	0	26	0	10
Q80Y50	Calmodulin-binding transcription activator 2	Camta2 (Kiaa0909)	0	26	0	10
Q61823	Programmed cell death protein 4 (Topoisomerase-inhibitor suppressed protein) (Protein MA-3)	Pdcd4 (Ma3) (Tis)	0	27	0	10
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q99MK9	Ras association domain-containing protein 1 (Protein 123F2)	Rassf1	0	29	0	11
Q9Z1Y4	Thyroid receptor-interacting protein 6 (TRIP-6) (Zyxin-related protein 1) (ZRP-1)	Trip6 (Zrp1)	0	34	0	11
P35917	Vascular endothelial growth factor receptor 3 (VEGFR-3) (EC 2.7.10.1) (Tyrosine-protein kinase receptor FLT4)	Flt4 (Flt-4)	0	34	0	11

Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
P27773	Protein disulfide-isomerase A3 (EC 5.3.4.1) (Disulfide isomerase ER-60) (ERp60) (58 kDa microsomal protein) (p58) (ERp57)	Pdia3 (Erp) (Erp60) (Grp58)	0	98	0	14
Q9CWI3	BRCA2 and CDKN1A-interacting protein	Bccip	0	28	0	15
P05622	Beta-type platelet-derived growth factor receptor (EC 2.7.10.1) (PDGF-R-beta) (CD140 antigen-like family member B) (CD antigen CD140b)	Pdgfrb (Pdgfr)	0	34	0	16
Q80TE4	Signal-induced proliferation-associated 1-like protein 2 (SIPA1-like protein 2)	Sipa1l2 (Kiaa0545)	0	36	0	16
P35918	Vascular endothelial growth factor receptor 2 (VEGFR-2) (EC 2.7.10.1) (Protein-tyrosine kinase receptor flk-1) (Fetal liver kinase 1) (Kinase NYK) (CD antigen CD309)	Kdr (Flk-1) (Flk1)	0	34	0	16
Q3UTH8	Rho guanine nucleotide exchange factor 9 (Rac/Cdc42 guanine nucleotide exchange factor 9) (Collybistin)	Arhgef9 (Kiaa0424)	0	31	0	17
Q80XI3	Eukaryotic translation initiation factor 4 gamma 3 (eIF-4-gamma 3) (eIF-4G 3) (eIF4G 3) (eIF-4-gamma II) (eIF4GII)	Eif4g3	0	58	0	17
Q62383	Transcription elongation factor SPT6	Supt6h (Kiaa0162)	0	28	0	17
P63085	Mitogen-activated protein kinase 1 (EC 2.7.11.24) (Extracellular signal-regulated kinase 2) (ERK-2) (Mitogen-activated protein kinase 2) (MAP kinase 2) (MAPK 2) (p42-MAPK) (ERT1)	Mapk1 (Erk2) (Mapk) (Prkm1)	0	112	0	19

Q810T2	G2/mitotic-specific cyclin-B3	Ccnb3 (Cycb3)	0	29	0	22
Q91YR7	Pre-mRNA-processing factor 6 (U5 snRNP-associated 102 kDa protein) (U5-102 kDa protein) (PRP6 homolog)	Prpf6	0	25	0	22
Q62468	Villin-1	Vil1 (Vil)	0	26	0	22
Q8BHZ4	Zinc finger protein 592 (Zfp-592)	Znf592 (Kiaa0211) (Zfp592)	0	26	0	24
O08532	Voltage-dependent calcium channel subunit alpha-2/delta-1 (Voltage-gated calcium channel subunit alpha-2/delta-1) [Cleaved into: Voltage-dependent calcium channel subunit alpha-2-1; Voltage-dependent calcium channel subunit delta-1]	Cacna2d1 (Cacna2)	0	25	0	26
Q9EQM6	Protein DGCR8 (DiGeorge syndrome critical region 8 homolog) (Gy1)	Dgcr8	0	28	0	29
Q69ZM6	Serine/threonine-protein kinase 36 (EC 2.7.11.1) (Fused homolog)	Stk36 (Kiaa1278)	0	29	0	35
P48036	Annexin A5 (Annexin-5) (Annexin V) (Lipocortin V) (Endonexin II) (Calphobindin I) (CBP-I) (Placental anticoagulant protein I) (PAP-I) (Placental anticoagulant protein 4) (PP4) (Thromboplastin inhibitor) (Vascular anticoagulant-alpha) (VAC-alpha) (Anchorin CII)	Anxa5 (Anx5)	36	202	5	16
P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
Q99020	Heterogeneous nuclear ribonucleoprotein A/B (hnRNP A/B) (CArG-binding factor-A) (CBF-A)	Hnrnpab (Cbf-a) (Cgbfa) (Hnrpab)	56	138	5	11
P12815	Programmed cell death protein 6 (Probable calcium-binding protein ALG-2) (PMP41) (ALG-257)	Pdcd6 (Alg2)	42	19	1	2

Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
Q08024	Core-binding factor subunit beta (CBF-beta) (Polyomavirus enhancer-binding protein 2 beta subunit) (PEBP2-beta) (PEA2-beta) (SL3-3 enhancer factor 1 subunit beta) (SL3/AKV core-binding factor beta subunit)	Cbfb (Pebp2b) (Pebpb2)	26	188	2	4
P63028	Translationally-controlled tumor protein (TCTP) (p23) (21 kDa polypeptide) (p21)	Tpt1 (Trt)	92	216	4	8
P47878	Insulin-like growth factor-binding protein 3 (IGF-binding protein 3) (IGFBP-3) (IBP-3)	Igfbp3 (Igfbp-3)	18	26	5	10
P34022	Ran-specific GTPase-activating protein (Ran-binding protein 1) (RANBP1) (Hpal1 tiny fragments locus 9a protein)	Ranbp1 (Htf9-a) (Htf9a)	49	24	5	10
Q9WTR1	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (Osm-9-like TRP channel 2) (OTRPC2) (Growth factor-regulated calcium channel) (GRC)	Trpv2 (Grc)	22	30	5	10
Q62318	Transcription intermediary factor 1-beta (TIF1-beta) (Tripartite motif-containing protein 28) (KRAB-A-interacting protein) (KRIP-1)	Trim28 (Krip1) (Tif1b)	24	84	10	20

Enriched Molecular Function by Gene Ontology

Term	Accession	Protein names	Genes	prot_score_WT	prot_score_KO	prot_matches_WT	prot_matches_KO
guanyl ribonucleotide binding	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4

Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
Q8CHH9	Septin-8	Sept8 (Kiaa0202)	0	30	0	7
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb- 1660)	0	76	0	9
Q8C1B7	Septin-11	Sept11 (D5Ert60 6e)	0	30	0	9
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
Q61410	cGMP-dependent protein kinase 2 (CGK 2) (EC 2.7.11.12) (cGKII) (Type II cGMP-dependent protein kinase)	Prkg2 (Prkgr2)	0	26	0	11
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q8CG03	cGMP-specific 3',5'-cyclic phosphodiesterase (EC 3.1.4.35) (cGMP-binding cGMP-specific phosphodiesterase) (CGB-PDE)	Pde5a (Pde5)	0	65	0	12
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
Q9R1T4	Septin-6	Sept6 (Kiaa0128)	0	30	0	13
Q8BIK4	Dedicator of cytokinesis protein 9 (Cdc42 guanine nucleotide exchange factor zizimin-1)	Dock9 (D14Wsu 89e) (Kiaa1058)	0	28	0	25
P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12

	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q9JJZ2	Tubulin alpha-8 chain (Alpha-tubulin 8)	Tuba8	428	841	25	50
guanyl nucleotide binding	Q35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
	Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
	Q8CHH9	Septin-8	Sept8 (Kiaa0202)	0	30	0	7
	Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb- 1660)	0	76	0	9
	Q8C1B7	Septin-11	Sept11 (D5Ert60 6e)	0	30	0	9
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
	Q61410	cGMP-dependent protein kinase 2 (CGK 2) (EC 2.7.11.12) (cGKII) (Type II cGMP-dependent protein kinase)	Prkg2 (Prkgr2)	0	26	0	11
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11	
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11	

	Q8CG03	cGMP-specific 3',5'-cyclic phosphodiesterase (EC 3.1.4.35) (cGMP-binding cGMP-specific phosphodiesterase) (CGB-PDE)	Pde5a (Pde5)	0	65	0	12
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	Q9R1T4	Septin-6	Sept6 (Kiaa0128)	0	30	0	13
	Q8BIK4	Dedicator of cytokinesis protein 9 (Cdc42 guanine nucleotide exchange factor zizimin-1)	Dock9 (D14Wsu89e) (Kiaa1058)	0	28	0	25
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q9JJZ2	Tubulin alpha-8 chain (Alpha-tubulin 8)	Tuba8	428	841	25	50
GTP binding	Q35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
	Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
	Q8CHH9	Septin-8	Sept8 (Kiaa0202)	0	30	0	7

	Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb- 1660)	0	76	0	9
	Q8C1B7	Septin-11	Sept11 (D5Ert60 6e)	0	30	0	9
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
	P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	Q9R1T4	Septin-6	Sept6 (Kiaa0128)	0	30	0	13
	Q8BIK4	Dedicator of cytokinesis protein 9 (Cdc42 guanine nucleotide exchange factor zizimin-1)	Dock9 (D14Wsu 89e) (Kiaa1058)	0	28	0	25
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q9JJZ2	Tubulin alpha-8 chain (Alpha-tubulin 8)	Tuba8	428	841	25	50
electron carrier activity	Q8CDN6	Thioredoxin-like protein 1 (32 kDa thioredoxin-related protein)	Txn1 (Trp32) (Txnl)	0	173	0	3
	Q9CPP6	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5 (NADH-ubiquinone oxidoreductase 13 kDa-B subunit) (Complex I-13kD-B) (CI-13kD-B) (Complex I subunit B13)	Ndufa5	0	25	0	4
	Q9CQZ5	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6 (NADH-ubiquinone oxidoreductase B14 subunit) (Complex I-B14) (CI-B14)	Ndufa6	0	30	0	5

	P09103	Protein disulfide-isomerase (PDI) (EC 5.3.4.1) (Prolyl 4-hydroxylase subunit beta) (Cellular thyroid hormone-binding protein) (p55) (Erp59)	P4hb (Pdia1)	0	28	0	5
	Q715T0	Thioredoxin domain-containing protein 3 (Spermatid-specific thioredoxin-2) (Sptrx-2)	Txndc3 (Sptrx2)	0	25	0	7
	Q9D0D5	General transcription factor IIE subunit 1 (Transcription initiation factor IIE subunit alpha) (TFIIE-alpha) (General transcription factor IIE 56 kDa subunit)	Gtf2e1	0	27	0	8
	Q9DC70	NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial (EC 1.6.5.3) (EC 1.6.99.3) (NADH-ubiquinone oxidoreductase 20 kDa subunit) (Complex I-20kD) (CI-20kD)	Ndufs7	0	32	0	11
	Q9Z1Y4	Thyroid receptor-interacting protein 6 (TRIP-6) (Zyxin-related protein 1) (ZRP-1)	Trip6 (Zrp1)	0	34	0	11
	P27773	Protein disulfide-isomerase A3 (EC 5.3.4.1) (Disulfide isomerase ER-60) (ERp60) (58 kDa microsomal protein) (p58) (ERp57)	Pdia3 (Erp) (Erp60) (Grp58)	0	98	0	14
	Q9CQM9	Glutaredoxin-3 (Thioredoxin-like protein 2) (PKC-interacting cousin of thioredoxin) (PKC-theta-interacting protein) (PKCg-interacting protein)	Glr3 (Picot) (Txnl2)	17	77	3	11
calcium ion binding	O70423	Membrane primary amine oxidase (EC 1.4.3.21) (Copper amine oxidase) (Semicarbazide-sensitive amine oxidase) (SSAO) (Vascular adhesion protein 1) (VAP-1)	Aoc3 (Vap1)	0	35	0	4
	O35639	Annexin A3 (Annexin-3) (Annexin III) (Lipocortin III) (Placental anticoagulant protein III) (PAP-III) (35-alpha calcimedlin)	Anxa3 (Anx3)	0	26	0	5
	Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem14 2a)	0	33	0	5
	Q9ER58	Testican-2 (SPARC/osteonectin, CWCV, and Kazal-like domains proteoglycan 2)	Spock2 (Ticn2)	0	26	0	5

P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6
P00687	Alpha-amylase 1 (EC 3.2.1.1) (1,4-alpha-D-glucan glucanohydrolase 1) (Salivary and hepatic alpha-amylase)	Amy1 (Amy-1-a) (Amy1a)	0	34	0	7
P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7
Q8VHF2	Mucin and cadherin-like protein (Mu-protocadherin)	Mupcdh (Mucdhl)	0	28	0	7
Q7TPR4	Alpha-actinin-1 (Alpha-actinin cytoskeletal isoform) (Non-muscle alpha-actinin-1) (F-actin cross-linking protein)	Actn1	0	34	0	8
P97384	Annexin A11 (Annexin-11) (Annexin XI) (Calcyclin-associated annexin 50) (CAP-50)	Anxa11 (Anx11)	0	26	0	9
P07356	Annexin A2 (Annexin-2) (Annexin II) (Lipocortin II) (Calpactin I heavy chain) (Chromobindin-8) (p36) (Protein I) (Placental anticoagulant protein IV) (PAP-IV)	Anxa2 (Anx2) (Cal1h)	0	51	0	9
P57780	Alpha-actinin-4 (Non-muscle alpha-actinin 4) (F-actin cross-linking protein)	Actn4	0	34	0	10
P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
Q80XI3	Eukaryotic translation initiation factor 4 gamma 3 (eIF-4-gamma 3) (eIF-4G 3) (eIF4G 3) (eIF-4-gamma II) (eIF4GII)	Eif4g3	0	58	0	17
Q62468	Villin-1	Vil1 (Vil)	0	26	0	22
O08532	Voltage-dependent calcium channel subunit alpha-2/delta-1 (Voltage-gated calcium channel subunit alpha-2/delta-1) [Cleaved into: Voltage-dependent calcium channel subunit alpha-2-1; Voltage-dependent calcium channel subunit delta-1]	Cacna2d1 (Cacna2)	0	25	0	26

	P48036	Annexin A5 (Annexin-5) (Annexin V) (Lipocortin V) (Endonexin II) (Calphobindin I) (CBP-I) (Placental anticoagulant protein I) (PAP-I) (Placental anticoagulant protein 4) (PP4) (Thromboplastin inhibitor) (Vascular anticoagulant-alpha) (VAC-alpha) (Anchorin CII)	Anxa5 (Anx5)	36	202	5	16
	Q9R244	Short transient receptor potential channel 2 (TrpC2) (Transient receptor protein 2) (TRP-2) (mTrp2)	Trpc2 (Trp2) (Trrp2)	25	55	45	92
	P12815	Programmed cell death protein 6 (Probable calcium-binding protein ALG-2) (PMP41) (ALG-257)	Pdcd6 (Alg2)	42	19	1	2
	P63028	Translationally-controlled tumor protein (TCTP) (p23) (21 kDa polypeptide) (p21)	Tpt1 (Trt)	92	216	4	8
	Q9WTR1	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (Osm-9-like TRP channel 2) (OTRPC2) (Growth factor-regulated calcium channel) (GRC)	Trpv2 (Grc)	22	30	5	10
enzyme regulator activity	Q62252	Sperm surface protein Sp17 (Sperm autoantigenic protein 17)	Spa17 (Sp17)	0	29	0	4
	O35639	Annexin A3 (Annexin-3) (Annexin III) (Lipocortin III) (Placental anticoagulant protein III) (PAP-III) (35-alpha calcimedlin)	Anxa3 (Anx3)	0	26	0	5
	P70677	Caspase-3 (CASP-3) (EC 3.4.22.56) (Apopain) (Cysteine protease CPP32) (CPP-32) (Yama protein) (SREBP cleavage activity 1) (SCA-1) (LICE) [Cleaved into: Caspase-3 subunit p17; Caspase-3 subunit p12]	Casp3 (Cpp32)	0	29	0	5
	P58389	Serine/threonine-protein phosphatase 2A regulatory subunit B' (PP2A, subunit B', PR53 isoform) (Phosphotyrosyl phosphatase activator) (PTPA)	Ppp2r4 (Ptpa)	0	32	0	5
	P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6

P27612	Phospholipase A-2-activating protein (PLAP)	Plaa (Plap)	0	27	0	6
P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdia)	0	56	0	7
P07356	Annexin A2 (Annexin-2) (Annexin II) (Lipocortin II) (Calpactin I heavy chain) (Chromobindin-8) (p36) (Protein I) (Placental anticoagulant protein IV) (PAP-IV)	Anxa2 (Anx2) (Cal1h)	0	51	0	9
Q9CWR8	DNA (cytosine-5)-methyltransferase 3-like	Dnmt3l	0	29	0	9
Q61410	cGMP-dependent protein kinase 2 (CGK 2) (EC 2.7.11.12) (cGKII) (Type II cGMP-dependent protein kinase)	Prkg2 (Prkgr2)	0	26	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
P14685	26S proteasome non-ATPase regulatory subunit 3 (26S proteasome regulatory subunit S3) (Proteasome subunit p58) (Transplantation antigen P91A) (Tum-P91A antigen)	Psm3 (P91a) (Tstap91a)	0	25	0	12
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
Q9CWI3	BRCA2 and CDKN1A-interacting protein	Bccip	0	28	0	15
Q80TE4	Signal-induced proliferation-associated 1-like protein 2 (SIPA1-like protein 2)	Sipa1l2 (Kiaa0545)	0	36	0	16
Q3UTH8	Rho guanine nucleotide exchange factor 9 (Rac/Cdc42 guanine nucleotide exchange factor 9) (Collybistin)	Arhgef9 (Kiaa0424)	0	31	0	17
P83510	Traf2 and NCK-interacting protein kinase (EC 2.7.11.1)	Tnik (Kiaa0551)	0	54	0	17

	Q8BIK4	Dedicator of cytokinesis protein 9 (Cdc42 guanine nucleotide exchange factor zizimin-1)	Dock9 (D14Wsu89e) (Kiaa1058)	0	28	0	25
	Q7SIG6	Development and differentiation-enhancing factor 2 (Pyk2 C-terminus-associated protein) (PAP) (Paxillin-associated protein with ARFGAP activity 3) (PAG3)	Ddef2 (Gm1523) (Gm592)	36	43	7	17
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	P47878	Insulin-like growth factor-binding protein 3 (IGF-binding protein 3) (IGFBP-3) (IBP-3)	Igfbp3 (Igfbp-3)	18	26	5	10
	P34022	Ran-specific GTPase-activating protein (Ran-binding protein 1) (RANBP1) (Hpal tiny fragments locus 9a protein)	Ranbp1 (Htf9-a) (Htf9a)	49	24	5	10
substrate-specific transporter activity	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P14231	Sodium/potassium-transporting ATPase subunit beta-2 (Sodium/potassium-dependent ATPase subunit beta-2) (Glial cell adhesion molecule) (AMOG)	Atp1b2	0	26	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	Q61792	LIM and SH3 domain protein 1 (LASP-1) (MLN 50)	Lasp1 (Mln50)	0	72	0	4
	Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
	Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem142a)	0	33	0	5
	Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
	Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13

	P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
	Q9WVL3	Solute carrier family 12 member 7 (Electroneutral potassium-chloride cotransporter 4) (K-Cl cotransporter 4)	Slc12a7 (Kcc4)	0	27	0	24
	O08532	Voltage-dependent calcium channel subunit alpha-2/delta-1 (Voltage-gated calcium channel subunit alpha-2/delta-1) [Cleaved into: Voltage-dependent calcium channel subunit alpha-2-1; Voltage-dependent calcium channel subunit delta-1]	Cacna2d1 (Cacna2)	0	25	0	26
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	Q9R244	Short transient receptor potential channel 2 (TrpC2) (Transient receptor protein 2) (TRP-2) (mTrp2)	Trpc2 (Trp2) (Trrp2)	25	55	45	92
	Q9R155	Pendrin (Sodium-independent chloride/iodide transporter) (Solute carrier family 26 member 4)	Slc26a4 (Pds)	32	18	3	6
	O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
	Q9WTR1	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (Osm-9-like TRP channel 2) (OTRPC2) (Growth factor-regulated calcium channel) (GRC)	Trpv2 (Grc)	22	30	5	10
transporter activity	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P14231	Sodium/potassium-transporting ATPase subunit beta-2 (Sodium/potassium-dependent ATPase subunit beta-2) (Glial cell adhesion molecule) (AMOG)	Atp1b2	0	26	0	3
	P11404	Fatty acid-binding protein, heart (Heart-type fatty acid-binding protein) (H-FABP) (Mammary-derived growth inhibitor) (MDGI)	Fabp3 (Fabph1)	0	25	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	Q61792	LIM and SH3 domain protein 1 (LASP-1) (MLN 50)	Lasp1 (Mln50)	0	72	0	4

Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem14 2a)	0	33	0	5
Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
Q9R1P4	Proteasome subunit alpha type-1 (EC 3.4.25.1) (Proteasome component C2) (Macropain subunit C2) (Multicatalytic endopeptidase complex subunit C2) (Proteasome nu chain)	Psm1	0	95	0	8
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
Q9WVL3	Solute carrier family 12 member 7 (Electroneutral potassium-chloride cotransporter 4) (K-Cl cotransporter 4)	Slc12a7 (Kcc4)	0	27	0	24
O08532	Voltage-dependent calcium channel subunit alpha-2/delta-1 (Voltage-gated calcium channel subunit alpha-2/delta-1) [Cleaved into: Voltage-dependent calcium channel subunit alpha-2-1; Voltage-dependent calcium channel subunit delta-1]	Cacna2d1 (Cacna2)	0	25	0	26
P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
Q9R244	Short transient receptor potential channel 2 (TrpC2) (Transient receptor protein 2) (TRP-2) (mTrp2)	Trpc2 (Trp2) (Trrp2)	25	55	45	92
Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
O35239	Tyrosine-protein phosphatase non-receptor type 9 (EC 3.1.3.48) (Protein-tyrosine phosphatase MEG2) (PTPase-MEG2)	Ptpn9	17	29	2	4

	Q9R155	Pendrin (Sodium-independent chloride/iodide transporter) (Solute carrier family 26 member 4)	Slc26a4 (Pds)	32	18	3	6
	O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
	Q9WTR1	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (Osm-9-like TRP channel 2) (OTRPC2) (Growth factor-regulated calcium channel) (GRC)	Trpv2 (Grc)	22	30	5	10
identical protein binding	O70423	Membrane primary amine oxidase (EC 1.4.3.21) (Copper amine oxidase) (Semicarbazide-sensitive amine oxidase) (SSAO) (Vascular adhesion protein 1) (VAP-1)	Aoc3 (Vap1)	0	35	0	4
	Q7TPD3	Roundabout homolog 2	Robo2 (Kiaa1568)	0	30	0	4
	P63087	Serine/threonine-protein phosphatase PP1-gamma catalytic subunit (PP-1G) (EC 3.1.3.16) (Protein phosphatase 1C catalytic subunit)	Ppp1cc	0	57	0	5
	P58389	Serine/threonine-protein phosphatase 2A regulatory subunit B' (PP2A, subunit B', PR53 isoform) (Phosphotyrosyl phosphatase activator) (PTPA)	Ppp2r4 (Ptpa)	0	32	0	5
	P10518	Delta-aminolevulinic acid dehydratase (ALADH) (EC 4.2.1.24) (Porphobilinogen synthase)	Alad (Lv)	0	78	0	6
	Q7TPR4	Alpha-actinin-1 (Alpha-actinin cytoskeletal isoform) (Non-muscle alpha-actinin-1) (F-actin cross-linking protein)	Actn1	0	34	0	8
	P15806	Transcription factor E2-alpha (Immunoglobulin enhancer-binding factor E12/E47) (Transcription factor 3) (TCF-3) (Transcription factor A1)	Tcf3 (Alf2) (Me2) (Tcfe2a)	0	28	0	9
	P57780	Alpha-actinin-4 (Non-muscle alpha-actinin 4) (F-actin cross-linking protein)	Actn4	0	34	0	10
	Q99MK9	Ras association domain-containing protein 1 (Protein 123F2)	Rassf1	0	29	0	11

	P56960	Exosome component 10 (Polymyositis/scleroderma autoantigen 2 homolog) (Autoantigen PM/Scl 2 homolog)	Exosc10 (Pmscl2)	0	27	0	12
binding	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91ZR3	CREB/ATF bZIP transcription factor (Host cell factor-binding transcription factor Zhangfei) (HCF-binding transcription factor Zhangfei) (Tyrosine kinase-associated leucine zipper protein LAZip)	Crebzf (Zf)	0	36	0	1
	P10922	Histone H1.0 (Histone H1(0)) (Histone H1') (MyD196)	H1f0 (H1fv)	0	35	0	2
	Q9Z2X1	Heterogeneous nuclear ribonucleoprotein F (hnRNP F)	Hnrnpf (Hnrpf)	0	35	0	2
	Q60654	Killer cell lectin-like receptor 7 (T-cell surface glycoprotein Ly-49G) (Lymphocyte antigen 49g) (Ly-49g)	Klra7 (Ly-49g) (Ly49g) (Ly49g4)	0	33	0	2
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	O70492	Sorting nexin-3 (SDP3 protein)	Snx3	0	54	0	2
	Q9JHJ7	Testisin (EC 3.4.21.-) (Serine protease 21) (Tryptase 4)	Prss21	0	26	0	2
	P21107	Tropomyosin alpha-3 chain (Tropomyosin-3) (Gamma-tropomyosin)	Tpm3 (Tpm-5) (Tpm5)	0	32	0	2
	P14231	Sodium/potassium-transporting ATPase subunit beta-2 (Sodium/potassium-dependent ATPase subunit beta-2) (Glial cell adhesion molecule) (AMOG)	Atp1b2	0	26	0	3
	Q99L47	Hsc70-interacting protein (Hip) (Protein ST13 homolog) (Protein FAM10A1)	St13 (Fam10a1) (Hip)	0	62	0	3
	P11404	Fatty acid-binding protein, heart (Heart-type fatty acid-binding protein) (H-FABP) (Mammary-derived growth inhibitor) (MDGI)	Fabp3 (Fabph1)	0	25	0	3

Q9CS42	Ribose-phosphate pyrophosphokinase 2 (EC 2.7.6.1) (Phosphoribosyl pyrophosphate synthetase II) (PRS-II)	Prps2	0	38	0	3
Q9D0J8	Parathymosin	Ptms	0	43	0	3
P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
O70423	Membrane primary amine oxidase (EC 1.4.3.21) (Copper amine oxidase) (Semicarbazide-sensitive amine oxidase) (SSAO) (Vascular adhesion protein 1) (VAP-1)	Aoc3 (Vap1)	0	35	0	4
Q8K0V4	CCR4-NOT transcription complex subunit 3 (CCR4-associated factor 3)	Cnot3 (Not3)	0	27	0	4
P26883	Peptidyl-prolyl cis-trans isomerase FKBP1A (PPlase FKBP1A) (EC 5.2.1.8) (FK506-binding protein 1A) (FKBP-1A) (Rotamase) (Immunophilin FKBP12) (12 kDa FKBP) (FKBP-12)	Fkbp1a (Fkbp1)	0	55	0	4
Q61792	LIM and SH3 domain protein 1 (LASP-1) (MLN 50)	Lasp1 (Mln50)	0	72	0	4
Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
Q80TJ7	PHD finger protein 8	Phf8 (Kiaa1111)	0	25	0	4
Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4

Q7TPD3	Roundabout homolog 2	Robo2 (Kiaa1568)	0	30	0	4
Q6IRU2	Tropomyosin alpha-4 chain (Tropomyosin-4)	Tpm4	0	42	0	4
O35639	Annexin A3 (Annexin-3) (Annexin III) (Lipocortin III) (Placental anticoagulant protein III) (PAP-III) (35-alpha calcimedlin)	Anxa3 (Anx3)	0	26	0	5
O35490	Betaine--homocysteine S-methyltransferase 1 (EC 2.1.1.5)	Bhmt	0	28	0	5
P70677	Caspase-3 (CASP-3) (EC 3.4.22.56) (Apopain) (Cysteine protease CPP32) (CPP-32) (Yama protein) (SREBP cleavage activity 1) (SCA-1) (LICE) [Cleaved into: Caspase-3 subunit p17; Caspase-3 subunit p12]	Casp3 (Cp32)	0	29	0	5
Q9DBY5	Chromobox protein homolog 6	Cbx6	0	26	0	5
Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem142a)	0	33	0	5
Q60668	Heterogeneous nuclear ribonucleoprotein D0 (hnRNP D0) (AU-rich element RNA-binding protein 1)	Hnrnpd (Auf1) (Hnrpd)	0	34	0	5
Q61211	Ligatin	Lgtn	0	36	0	5
P63087	Serine/threonine-protein phosphatase PP1-gamma catalytic subunit (PP-1G) (EC 3.1.3.16) (Protein phosphatase 1C catalytic subunit)	Ppp1cc	0	57	0	5
P58389	Serine/threonine-protein phosphatase 2A regulatory subunit B' (PP2A, subunit B', PR53 isoform) (Phosphotyrosyl phosphatase activator) (PTPA)	Ppp2r4 (Ptpa)	0	32	0	5
Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
Q8BG05	Heterogeneous nuclear ribonucleoprotein A3 (hnRNP A3)	Hnrnpa3 (Hnrpa3)	0	34	0	5
Q9JLI8	Squamous cell carcinoma antigen recognized by T-cells 3 (SART-3) (mSART-3) (Tumor-rejection antigen SART3)	Sart3 (Kiaa0156)	0	30	0	5

Q99K90	Mitogen-activated protein kinase kinase kinase 7-interacting protein 2 (TAK1-binding protein 2) (TAB2)	Map3k7ip2 (Kiaa0733) (Tab2)	0	25	0	5
Q9ER58	Testican-2 (SPARC/osteonectin, CWCV, and Kazal-like domains proteoglycan 2)	Spock2 (Ticn2)	0	26	0	5
Q7TM95	Tigger transposable element-derived protein 3	Tigd3	0	26	0	5
P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6
Q91X20	Set1/Ash2 histone methyltransferase complex subunit ASH2 (ASH2-like protein)	Ash2l	0	26	0	6
Q9QZD9	Eukaryotic translation initiation factor 3 subunit I (eIF3i) (Eukaryotic translation initiation factor 3 subunit 2) (eIF-3-beta) (eIF3 p36) (TGF-beta receptor-interacting protein 1) (TRIP-1)	Eif3i (Eif3s2) (Trip1)	0	62	0	6
P10518	Delta-aminolevulinic acid dehydratase (ALADH) (EC 4.2.1.24) (Porphobilinogen synthase)	Alad (Lv)	0	78	0	6
Q9Z2Y3	Homer protein homolog 1 (VASP/Ena-related gene up-regulated during seizure and LTP) (Vesl-1)	Homer1 (Vesl1)	0	30	0	6
Q8CHP6	Polyhomeotic-like protein 3	Phc3	0	34	0	6
P27612	Phospholipase A-2-activating protein (PLAP)	Plaa (Plap)	0	27	0	6
Q3UM45	Protein phosphatase 1 regulatory subunit 7 (Protein phosphatase 1 regulatory subunit 22)	Ppp1r7 (Sds22)	0	35	0	6
P63330	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform (PP2A-alpha) (EC 3.1.3.16)	Ppp2ca	0	101	0	6
Q9R1T2	SUMO-activating enzyme subunit 1 (Ubiquitin-like 1-activating enzyme E1A)	Sae1 (Aos1) (Sua1) (Ubl1a1) (Uble1a)	0	62	0	6

O88342	WD repeat-containing protein 1 (Actin-interacting protein 1) (AIP1)	Wdr1	0	30	0	6
P00687	Alpha-amylase 1 (EC 3.2.1.1) (1,4-alpha-D-glucan glucanohydrolase 1) (Salivary and hepatic alpha-amylase)	Amy1 (Amy-1-a) (Amy1a)	0	34	0	7
P14211	Calreticulin (CRP55) (Calregulin) (HACBP) (ERp60)	Calr	0	120	0	7
P43274	Histone H1.4 (H1 VAR.2) (H1e)	Hist1h1e (H1f4)	0	72	0	7
P48967	M-phase inducer phosphatase 3 (EC 3.1.3.48) (Dual specificity phosphatase Cdc25C)	Cdc25c (Cdc25m1)	0	33	0	7
Q8VHF2	Mucin and cadherin-like protein (Mu-protocadherin)	Mupcdh (Mucdhl)	0	28	0	7
Q99K48	Non-POU domain-containing octamer-binding protein (NonO protein)	Nono	0	41	0	7
Q5XPI3	E3 ubiquitin-protein ligase RNF123 (EC 6.3.2.-) (RING finger protein 123) (Kip1 ubiquitination-promoting complex protein 1)	Rnf123 (Kpc1)	0	26	0	7
Q8CHH9	Septin-8	Sept8 (Kiaa0202)	0	30	0	7
Q9CX34	Suppressor of G2 allele of SKP1 homolog	Sugt1	0	44	0	7
Q99JX1	Transcription initiation factor TFIID subunit 11 (Transcription initiation factor TFIID 28 kDa subunit) (TAF(II)28) (TAFII-28) (TAFII28) (TFIID subunit p30-beta)	Taf11	0	37	0	7
Q715T0	Thioredoxin domain-containing protein 3 (Spermatid-specific thioredoxin-2) (Sptrx-2)	Txndc3 (Sptrx2)	0	25	0	7
Q9ERZ4	Muscarinic acetylcholine receptor M2	Chrm2 (Chrm-2)	0	31	0	8
Q7TPR4	Alpha-actinin-1 (Alpha-actinin cytoskeletal isoform) (Non-muscle alpha-actinin-1) (F-actin cross-linking protein)	Actn1	0	34	0	8

Q9DAR7	Scavenger mRNA-decapping enzyme DcpS (EC 3.-.-.) (DCS-1) (Hint-related 7meGMP-directed hydrolase) (Histidine triad protein member 5) (HINT-5)	Dcps (Dcs1) (Hint5)	0	76	0	8
P00375	Dihydrofolate reductase (EC 1.5.1.3)	Dhfr	0	38	0	8
P35922	Fragile X mental retardation protein 1 homolog (Protein FMR-1) (FMRP) (mFmr1p)	Fmr1 (Fmr-1)	0	36	0	8
P47857	6-phosphofructokinase, muscle type (EC 2.7.1.11) (Phosphofructokinase 1) (Phosphohexokinase) (Phosphofructo-1-kinase isozyme A) (PFK-A) (Phosphofructokinase-M)	Pfkm (Pfk-m) (Pfka)	0	64	0	8
Q80Y86	Mitogen-activated protein kinase 15 (EC 2.7.11.24) (Extracellular signal-regulated kinase 7)	Mapk15 (Erk7)	0	34	0	8
P57722	Poly(rC)-binding protein 3 (Alpha-CP3)	Pcbp3	0	122	0	8
Q11136	Xaa-Pro dipeptidase (X-Pro dipeptidase) (EC 3.4.13.9) (Proline dipeptidase) (Prolidase) (Imidodipeptidase) (Peptidase D) (Peptidase 4)	Pepd (Pep4)	0	108	0	8
Q9R1P4	Proteasome subunit alpha type-1 (EC 3.4.25.1) (Proteasome component C2) (Macropain subunit C2) (Multicatalytic endopeptidase complex subunit C2) (Proteasome nu chain)	Psma1	0	95	0	8
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
P62849	40S ribosomal protein S24	Rps24	0	72	0	8
Q9D0D5	General transcription factor IIE subunit 1 (Transcription initiation factor IIE subunit alpha) (TFIIE-alpha) (General transcription factor IIE 56 kDa subunit)	Gtf2e1	0	27	0	8
Q9JIF0	Protein arginine N-methyltransferase 1 (EC 2.1.1.-)	Prmt1 (Hrmt1l2) (Mrmt1)	0	150	0	9
P97384	Annexin A11 (Annexin-11) (Annexin XI) (Calcyclin-associated annexin 50) (CAP-50)	Anxa11 (Anx11)	0	26	0	9

P07356	Annexin A2 (Annexin-2) (Annexin II) (Lipocortin II) (Calpactin I heavy chain) (Chromobindin-8) (p36) (Protein I) (Placental anticoagulant protein IV) (PAP-IV)	Anxa2 (Anx2) (Cal1h)	0	51	0	9
Q99N16	Cytochrome P450 4F3 (EC 1.14.13.30) (CYPIVF3) (Leukotriene-B(4) omega-hydroxylase) (Leukotriene B(4) 20-monooxygenase) (Cytochrome P450-LTB-omega)	Cyp4f3 (Cyp4f18)	0	30	0	9
Q9CWR8	DNA (cytosine-5)-methyltransferase 3-like	Dnmt3l	0	29	0	9
P60762	Mortality factor 4-like protein 1 (MORF-related gene 15 protein) (Transcription factor-like protein MRG15) (Testis-expressed gene 189 protein)	Morf4l1 (Mrg15) (Tex189)	0	33	0	9
O88907	E3 SUMO-protein ligase PIAS1 (Protein inhibitor of activated STAT protein 1) (DEAD/H box-binding protein 1)	Pias1 (Ddxbp1)	0	31	0	9
Q8BWW9	Serine/threonine-protein kinase N2 (EC 2.7.11.13) (Protein kinase C-like 2) (Protein-kinase C-related kinase 2)	Pkn2 (Prkcl2)	0	25	0	9
P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
Q8C1B7	Septin-11	Sept11 (D5Ert606e)	0	30	0	9
Q8BMQ2	General transcription factor 3C polypeptide 4 (EC 2.3.1.48) (Transcription factor IIIC subunit delta) (TF3C-delta) (TFIIIC 90 kDa subunit) (TFIIIC 90)	Gtf3c4	0	46	0	9
P15806	Transcription factor E2-alpha (Immunoglobulin enhancer-binding factor E12/E47) (Transcription factor 3) (TCF-3) (Transcription factor A1)	Tcf3 (Alf2) (Me2) (Tcf2a)	0	28	0	9
P57780	Alpha-actinin-4 (Non-muscle alpha-actinin 4) (F-actin cross-linking protein)	Actn4	0	34	0	10

Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P36898	Bone morphogenetic protein receptor type-1B (EC 2.7.11.30) (Serine/threonine-protein kinase receptor R6) (SKR6) (Activin receptor-like kinase 6) (ALK-6) (CD antigen CDw293)	Bmpr1b (Acvrlk6)	0	26	0	10
Q80Y50	Calmodulin-binding transcription activator 2	Camta2 (Kiaa0909)	0	26	0	10
Q9QXE2	DNA polymerase lambda (Pol Lambda) (EC 2.7.7.7) (EC 4.2.99.-) (DNA polymerase kappa)	Poll (Polk)	0	48	0	10
Q8C2S5	F-box/LRR-repeat protein 5 (F-box and leucine-rich repeat protein 5)	Fbxl5	0	27	0	10
Q61823	Programmed cell death protein 4 (Topoisomerase-inhibitor suppressed protein) (Protein MA-3)	Pdcd4 (Ma3) (Tis)	0	27	0	10
Q3TPE9	Ankyrin repeat and MYND domain-containing protein 2	Ankmy2	0	25	0	11
Q61410	cGMP-dependent protein kinase 2 (CGK 2) (EC 2.7.11.12) (cGKII) (Type II cGMP-dependent protein kinase)	Prkg2 (Prkgr2)	0	26	0	11
Q9DC70	NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial (EC 1.6.5.3) (EC 1.6.99.3) (NADH-ubiquinone oxidoreductase 20 kDa subunit) (Complex I-20kD) (CI-20kD)	Ndufs7	0	32	0	11
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q99MK9	Ras association domain-containing protein 1 (Protein 123F2)	Rassf1	0	29	0	11
Q9Z1Y4	Thyroid receptor-interacting protein 6 (TRIP-6) (Zyxin-related protein 1) (ZRP-1)	Trip6 (Zrp1)	0	34	0	11
P35917	Vascular endothelial growth factor receptor 3 (VEGFR-3) (EC 2.7.10.1) (Tyrosine-protein kinase receptor FLT4)	Flt4 (Flt-4)	0	34	0	11
Q400C8	Archaemetzincin-2 (EC 3.-.-.-) (Archeobacterial metalloproteinase-like protein 2)	Amz2	0	34	0	12

Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
Q8BPU7	Engulfment and cell motility protein 1 (CED-12 homolog)	Elmo1	0	64	0	12
P56960	Exosome component 10 (Polymyositis/scleroderma autoantigen 2 homolog) (Autoantigen PM/Scl 2 homolog)	Exosc10 (Pmscl2)	0	27	0	12
Q8CG03	cGMP-specific 3',5'-cyclic phosphodiesterase (EC 3.1.4.35) (cGMP-binding cGMP-specific phosphodiesterase) (CGB-PDE)	Pde5a (Pde5)	0	65	0	12
P14685	26S proteasome non-ATPase regulatory subunit 3 (26S proteasome regulatory subunit S3) (Proteasome subunit p58) (Transplantation antigen P91A) (Tum-P91A antigen)	Psmc3 (P91a) (Tstap91a)	0	25	0	12
P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
Q9DAW9	Calponin-3 (Calponin, acidic isoform)	Cnn3	0	27	0	13
Q9R1T4	Septin-6	Sept6 (Kiaa0128)	0	30	0	13
Q63844	Mitogen-activated protein kinase 3 (EC 2.7.11.24) (Extracellular signal-regulated kinase 1) (ERK-1) (Insulin-stimulated MAP2 kinase) (MAP kinase 1) (MAPK 1) (p44-ERK1) (ERT2) (p44-MAPK) (Microtubule-associated protein 2 kinase) (MNK1)	Mapk3 (Erk1) (Prkm3)	0	37	0	14
P27773	Protein disulfide-isomerase A3 (EC 5.3.4.1) (Disulfide isomerase ER-60) (ERp60) (58 kDa microsomal protein) (p58) (ERp57)	Pdia3 (Erp) (Erp60) (Grp58)	0	98	0	14
Q60598	Src substrate cortactin	Cttn (Ems1)	0	27	0	14

Q7M6U3	Testis-expressed protein 14 (Testis-expressed sequence 14)	Tex14	0	28	0	14
P97855	Ras GTPase-activating protein-binding protein 1 (EC 3.6.1.-) (G3BP-1) (ATP-dependent DNA helicase VIII) (HDH-VIII) (GAP SH3 domain-binding protein 1)	G3bp1 (G3bp)	0	75	0	15
P63242	Eukaryotic translation initiation factor 5A-1 (eIF-5A-1) (eIF-5A1) (Eukaryotic initiation factor 5A isoform 1) (eIF-5A) (eIF-4D)	Eif5a	0	379	0	15
P28738	Kinesin heavy chain isoform 5C (Kinesin heavy chain neuron-specific 2)	Kif5c (Nkhc2)	0	66	0	15
P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
P28658	Ataxin-10 (Spinocerebellar ataxia type 10 protein homolog) (Brain protein E46)	Atxn10 (Sca10)	0	27	0	16
Q922D8	C-1-tetrahydrofolate synthase, cytoplasmic (C1-THF synthase) [Includes: Methylenetetrahydrofolate dehydrogenase (EC 1.5.1.5); Methenyltetrahydrofolate cyclohydrolase (EC 3.5.4.9); Formyltetrahydrofolate synthetase (EC 6.3.4.3)]	Mthfd1	0	25	0	16
Q8R1U1	Conserved oligomeric Golgi complex subunit 4 (COG complex subunit 4) (Component of oligomeric Golgi complex 4)	Cog4	0	27	0	16
Q8JZQ9	Eukaryotic translation initiation factor 3 subunit B (eIF3b) (Eukaryotic translation initiation factor 3 subunit 9) (eIF-3-eta) (eIF3 p116)	Eif3b (Eif3s9)	0	52	0	16
Q8BJL1	F-box only protein 30	Fbxo30	0	39	0	16
Q8BRM2	N-terminal kinase-like-binding protein 1 (NTKL-binding protein 1) (NTKL-BP1) (mNTKL-BP1) (SCY1-like 1-binding protein 1) (SCYL1-binding protein 1) (SCYL1-BP1)	Scyl1bp1 (Ntklbp1)	0	41	0	16
P05622	Beta-type platelet-derived growth factor receptor (EC 2.7.10.1) (PDGF-R-beta) (CD140 antigen-like family member B) (CD antigen CD140b)	Pdgfrb (Pdgfr)	0	34	0	16

Q80TE4	Signal-induced proliferation-associated 1-like protein 2 (SIPA1-like protein 2)	Sipa1l2 (Kiaa0545)	0	36	0	16
P08071	Lactotransferrin (Lactoferrin) (EC 3.4.21.-)	Ltf	0	25	0	16
P35918	Vascular endothelial growth factor receptor 2 (VEGFR-2) (EC 2.7.10.1) (Protein-tyrosine kinase receptor flk-1) (Fetal liver kinase 1) (Kinase NYK) (CD antigen CD309)	Kdr (Flk-1) (Flk1)	0	34	0	16
Q80XI3	Eukaryotic translation initiation factor 4 gamma 3 (eIF-4-gamma 3) (eIF-4G 3) (eIF4G 3) (eIF-4-gamma II) (eIF4GII)	Eif4g3	0	58	0	17
Q62383	Transcription elongation factor SPT6	Supt6h (Kiaa0162)	0	28	0	17
P63085	Mitogen-activated protein kinase 1 (EC 2.7.11.24) (Extracellular signal-regulated kinase 2) (ERK-2) (Mitogen-activated protein kinase 2) (MAPK 2) (p42-MAPK) (ERT1)	Mapk1 (Erk2) (Mapk) (Prkm1)	0	112	0	19
P33175	Kinesin heavy chain isoform 5A (Neuronal kinesin heavy chain) (NKHC) (Kinesin heavy chain neuron-specific 1)	Kif5a (Kiaa4086) (Kif5) (Nkhc1)	0	66	0	20
Q924W5	Structural maintenance of chromosomes protein 6 (mSMC6)	Smc6 (Kiaa4103) (Smc6l1)	0	38	0	21
Q80U72	Protein LAP4 (Protein scribble homolog)	Scrib (Kiaa0147) (Lap4) (Scrib1)	0	29	0	22
Q91YR7	Pre-mRNA-processing factor 6 (U5 snRNP-associated 102 kDa protein) (U5-102 kDa protein) (PRP6 homolog)	Prpf6	0	25	0	22
Q62468	Villin-1	Vil1 (Vil)	0	26	0	22

Q9QXL2	Kinesin-like protein KIF21A	Kif21a (Kiaa1708)	0	45	0	23
Q9WVL3	Solute carrier family 12 member 7 (Electroneutral potassium-chloride cotransporter 4) (K-Cl cotransporter 4)	Slc12a7 (Kcc4)	0	27	0	24
Q8CFE4	SCY1-like protein 2 (Coated vesicle-associated kinase of 104 kDa)	Scyl2 (Cvak104) (D10Ert802e)	0	31	0	24
Q8C636	Spermatogenesis-associated protein 16	Spata16	0	41	0	24
Q8BHZ4	Zinc finger protein 592 (Zfp-592)	Znf592 (Kiaa0211) (Zfp592)	0	26	0	24
Q8BIK4	Dedicator of cytokinesis protein 9 (Cdc42 guanine nucleotide exchange factor zizimin-1)	Dock9 (D14Wsu89e) (Kiaa1058)	0	28	0	25
O08532	Voltage-dependent calcium channel subunit alpha-2/delta-1 (Voltage-gated calcium channel subunit alpha-2/delta-1) [Cleaved into: Voltage-dependent calcium channel subunit alpha-2-1; Voltage-dependent calcium channel subunit delta-1]	Cacna2d1 (Cacna2)	0	25	0	26
Q60900	ELAV-like protein 3 (Hu-antigen C) (HuC)	Elavl3 (Huc)	0	31	0	26
Q9EQM6	Protein DGCR8 (DiGeorge syndrome critical region 8 homolog) (Gy1)	Dgcr8	0	28	0	29
Q91ZD4	Vang-like protein 2 (Van Gogh-like protein 2) (Loop-tail-associated protein) (Loop-tail protein 1)	Vangl2 (Lpp1) (Ltap)	0	27	0	31
Q69ZM6	Serine/threonine-protein kinase 36 (EC 2.7.11.1) (Fused homolog)	Stk36 (Kiaa1278)	0	29	0	35

P14873	Microtubule-associated protein 1B (MAP-1B) (MAP1.2) (MAP1(X)) [Cleaved into: MAP1 light chain LC1]	Map1b (Mtap1b) (Mtap5)	0	490	0	44
Q9D2U9	Histone H2B type 3-A	Hist3h2ba	0	806	0	54
Q62167	ATP-dependent RNA helicase DDX3X (EC 3.6.1.-) (DEAD box protein 3, X-chromosomal) (DEAD box RNA helicase DEAD3) (mDEAD3) (Embryonic RNA helicase) (D1Pas1-related sequence 2)	Ddx3x (D1Pas1-rs2) (Ddx3) (Dead3) (Erh)	0	62	0	64
Q62095	ATP-dependent RNA helicase DDX3Y (EC 3.6.1.-) (DEAD box protein 3, Y-chromosomal) (DEAD-box RNA helicase DEAD2) (mDEAD2) (D1Pas1-related sequence 1)	Ddx3y (D1Pas1-rs1) (Dead2)	0	62	0	65

P84228	Histone H3.2	Hist1h3b (H3-53) (H3.2) (H3b); Hist1h3c (H3-143); Hist1h3d (H3-B); Hist1h3e (H3-F); Hist1h3f (H3.2- 221) (H3f); Hist2h3b (H3.2- 616); Hist2h3c1 (H3.2- 615) (Hist2h3c a1); Hist2h3c2 (H3.2- 614) (Hist2h3c a2)	0	417	0	68
P10854	Histone H2B type 1-M (H2B 291B)	Hist1h2b m	0	999	0	77
Q9D9B4	Leucine-rich repeat-containing protein C10orf11 homolog		20	36	1	8
P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
Q9CQM9	Glutaredoxin-3 (Thioredoxin-like protein 2) (PKC-interacting cousin of thioredoxin) (PKC-theta-interacting protein) (PKCq-interacting protein)	Glrx3 (Picot) (Txnl2)	17	77	3	11

Q01768	Nucleoside diphosphate kinase B (NDP kinase B) (NDK B) (EC 2.7.4.6) (nm23-M2) (P18)	Nme2	130	344	6	21
P48036	Annexin A5 (Annexin-5) (Annexin V) (Lipocortin V) (Endonexin II) (Calphobindin I) (CBP-I) (Placental anticoagulant protein I) (PAP-I) (Placental anticoagulant protein 4) (PP4) (Thromboplastin inhibitor) (Vascular anticoagulant-alpha) (VAC-alpha) (Anchorin CII)	Anxa5 (Anx5)	36	202	5	16
P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
P15331	Peripherin	Prph (Prph1)	45	181	10	28
Q99PW8	Kinesin-like protein KIF17 (MmKIF17)	Kif17	24	44	13	35
Q3UA16	Kinetochores protein Spc25	Spc25 (Spbc25)	16	81	6	15
Q7SIG6	Development and differentiation-enhancing factor 2 (Pyk2 C-terminus-associated protein) (PAP) (Paxillin-associated protein with ARFGAP activity 3) (PAG3)	Ddef2 (Gm1523) (Gm592)	36	43	7	17
O89053	Coronin-1A (Coronin-like protein p57) (Coronin-like protein A) (Clipin-A) (Tryptophan aspartate-containing coat protein) (TACO)	Coro1a (Coro1)	20	39	47	114
P15864	Histone H1.2 (H1 VAR.1) (H1c)	Hist1h1c (H1f2)	77	222	12	29
Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
Q8BGY2	Eukaryotic translation initiation factor 5A-2 (eIF-5A-2) (eIF-5A2) (Eukaryotic initiation factor 5A isoform 2)	Eif5a2	70	331	6	14
Q9D0R2	Threonyl-tRNA synthetase, cytoplasmic (EC 6.1.1.3) (Threonine--tRNA ligase) (ThrRS)	Tars	19	51	7	16
O35066	Kinesin-like protein KIF3C	Kif3c	23	37	8	18
P11679	Keratin, type II cytoskeletal 8 (Cytokeratin-8) (CK-8) (Keratin-8) (K8) (Cytokeratin endo A)	Krt8 (Krt2-8)	61	175	13	29
Q69Z69	N-acetyltransferase ESCO1 (EC 2.3.1.-) (Establishment of cohesion 1 homolog 1) (ECO1 homolog 1)	Esco1 (Kiaa1911)	42	173	56	124

Q99020	Heterogeneous nuclear ribonucleoprotein A/B (hnRNP A/B) (CArG-binding factor-A) (CBF-A)	Hnrnpab (Cbf-a) (Cgbfa) (Hnrpab)	56	138	5	11
Q61553	Fascin (Singed-like protein)	Fscn1 (Fan1) (Snl)	117	307	10	21
Q80YX1	Tenascin (TN) (Tenascin-C) (TN-C) (Hexabrachion)	Tnc (Hxb)	80	200	22	45
Q9R244	Short transient receptor potential channel 2 (TrpC2) (Transient receptor protein 2) (TRP-2) (mTrp2)	Trpc2 (Trp2) (Trrp2)	25	55	45	92
P12815	Programmed cell death protein 6 (Probable calcium-binding protein ALG-2) (PMP41) (ALG-257)	Pdcd6 (Alg2)	42	19	1	2
Q9WVA3	Mitotic checkpoint protein BUB3 (WD repeat type I transmembrane protein A72.5)	Bub3	17	42	2	4
Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
Q08024	Core-binding factor subunit beta (CBF-beta) (Polyomavirus enhancer-binding protein 2 beta subunit) (PEBP2-beta) (PEA2-beta) (SL3-3 enhancer factor 1 subunit beta) (SL3/AKV core-binding factor beta subunit)	Cbfb (Pebp2b) (Pebpb2)	26	188	2	4
Q61481	Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase 1A (Cam-PDE 1A) (EC 3.1.4.17) (61 kDa Cam-PDE)	Pde1a	21	30	3	6
Q9R155	Pendrin (Sodium-independent chloride/iodide transporter) (Solute carrier family 26 member 4)	Slc26a4 (Pds)	32	18	3	6
O55029	Coatomer subunit beta' (Beta'-coat protein) (Beta'-COP) (p102)	Copb2	48	31	4	8
P63028	Translationally-controlled tumor protein (TCTP) (p23) (21 kDa polypeptide) (p21)	Tpt1 (Trt)	92	216	4	8
P47878	Insulin-like growth factor-binding protein 3 (IGF-binding protein 3) (IGFBP-3) (IBP-3)	Igfbp3 (Igfbp-3)	18	26	5	10

	Q9WTR1	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (Osm-9-like TRP channel 2) (OTRPC2) (Growth factor-regulated calcium channel) (GRC)	Trpv2 (Grc)	22	30	5	10
	Q62318	Transcription intermediary factor 1-beta (TIF1-beta) (Tripartite motif-containing protein 28) (KRAB-A-interacting protein) (KRIP-1)	Trim28 (Krip1) (Tif1b)	24	84	10	20
	Q9JJZ2	Tubulin alpha-8 chain (Alpha-tubulin 8)	Tuba8	428	841	25	50
enzyme activator activity	P58389	Serine/threonine-protein phosphatase 2A regulatory subunit B' (PP2A, subunit B', PR53 isoform) (Phosphotyrosyl phosphatase activator) (PTPA)	Ppp2r4 (Ptpa)	0	32	0	5
	P27612	Phospholipase A-2-activating protein (PLAP)	Plaa (Plap)	0	27	0	6
	P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdia)	0	56	0	7
	Q9CWR8	DNA (cytosine-5)-methyltransferase 3-like	Dnmt3l	0	29	0	9
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	Q80TE4	Signal-induced proliferation-associated 1-like protein 2 (SIPA1-like protein 2)	Sipa1l2 (Kiaa0545)	0	36	0	16
	Q7SIG6	Development and differentiation-enhancing factor 2 (Pyk2 C-terminus-associated protein) (PAP) (Paxillin-associated protein with ARFGAP activity 3) (PAG3)	Ddef2 (Gm1523) (Gm592)	36	43	7	17
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	P47878	Insulin-like growth factor-binding protein 3 (IGF-binding protein 3) (IGFBP-3) (IBP-3)	Igfbp3 (Igfbp-3)	18	26	5	10
	P34022	Ran-specific GTPase-activating protein (Ran-binding protein 1) (RANBP1) (Hpal1 tiny fragments locus 9a protein)	Ranbp1 (Htf9-a) (Htf9a)	49	24	5	10
Enriched Biological Processes by Panther							
Term	Accession	Protein names	Genes	prot_score_WT	prot_score_KO	prot_matches_WT	prot_matches_KO

DNA recombination	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
	P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
General vesicle transport	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
	P63087	Serine/threonine-protein phosphatase PP1-gamma catalytic subunit (PP-1G) (EC 3.1.3.16) (Protein phosphatase 1C catalytic subunit)	Ppp1cc	0	57	0	5
	Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
	Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
	Q8C2S5	F-box/LRR-repeat protein 5 (F-box and leucine-rich repeat protein 5)	Fbxl5	0	27	0	10

	P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	P35438	Glutamate [NMDA] receptor subunit zeta-1 (N-methyl-D-aspartate receptor subunit NR1)	Grin1 (Glurz1)	0	27	0	15
	Q8BHZ4	Zinc finger protein 592 (Zfp-592)	Znf592 (Kiaa0211) (Zfp592)	0	26	0	24
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	P12815	Programmed cell death protein 6 (Probable calcium-binding protein ALG-2) (PMP41) (ALG-257)	Pdcd6 (Alg2)	42	19	1	2
Small molecule transport	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	O35490	Betaine--homocysteine S-methyltransferase 1 (EC 2.1.1.5)	Bhmt	0	28	0	5
	O88342	WD repeat-containing protein 1 (Actin-interacting protein 1) (AIP1)	Wdr1	0	30	0	6
	Q61823	Programmed cell death protein 4 (Topoisomerase-inhibitor suppressed protein) (Protein MA-3)	Pdcd4 (Ma3) (Tis)	0	27	0	10
	P35917	Vascular endothelial growth factor receptor 3 (VEGFR-3) (EC 2.7.10.1) (Tyrosine-protein kinase receptor FLT4)	Flt4 (Flt-4)	0	34	0	11
	P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
	Q8C2E7	Strumpellin	Kiaa0196	0	40	0	22

	Q8BIK4	Dedicator of cytokinesis protein 9 (Cdc42 guanine nucleotide exchange factor zizimin-1)	Dock9 (D14Wsu89e) (Kiaa1058)	0	28	0	25
	Q80U62	Uncharacterized protein KIAA0226	Kiaa0226	36	19	7	15
	Q9R155	Pendrin (Sodium-independent chloride/iodide transporter) (Solute carrier family 26 member 4)	Slc26a4 (Pds)	32	18	3	6
Synaptic transmission	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	O35490	Betaine--homocysteine S-methyltransferase 1 (EC 2.1.1.5)	Bhmt	0	28	0	5
	Q9Z2Y3	Homer protein homolog 1 (VASP/Ena-related gene up-regulated during seizure and LTP) (Vesl-1)	Homer1 (Vesl1)	0	30	0	6
	P62849	40S ribosomal protein S24	Rps24	0	72	0	8
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
	P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
	Q9JJU8	SH3 domain-binding glutamic acid-rich-like protein	Sh3bgrl	29	69	2	4
Cell motility	P21107	Tropomyosin alpha-3 chain (Tropomyosin-3) (Gamma-tropomyosin)	Tpm3 (Tpm-5) (Tpm5)	0	32	0	2
	Q9D0J8	Parathymosin	Ptms	0	43	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	O70423	Membrane primary amine oxidase (EC 1.4.3.21) (Copper amine oxidase) (Semicarbazide-sensitive amine oxidase) (SSAO) (Vascular adhesion protein 1) (VAP-1)	Aoc3 (Vap1)	0	35	0	4

O35639	Annexin A3 (Annexin-3) (Annexin III) (Lipocortin III) (Placental anticoagulant protein III) (PAP-III) (35-alpha calcimedlin)	Anxa3 (Anx3)	0	26	0	5
P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6
P35922	Fragile X mental retardation protein 1 homolog (Protein FMR-1) (FMRP) (mFmr1p)	Fmr1 (Fmr-1)	0	36	0	8
P07356	Annexin A2 (Annexin-2) (Annexin II) (Lipocortin II) (Calpactin I heavy chain) (Chromobindin-8) (p36) (Protein I) (Placental anticoagulant protein IV) (PAP-IV)	Anxa2 (Anx2) (Cal1h)	0	51	0	9
P15806	Transcription factor E2-alpha (Immunoglobulin enhancer-binding factor E12/E47) (Transcription factor 3) (TCF-3) (Transcription factor A1)	Tcf3 (Alf2) (Me2) (Tcfe2a)	0	28	0	9
Q8BPU7	Engulfment and cell motility protein 1 (CED-12 homolog)	Elmo1	0	64	0	12
Q810T2	G2/mitotic-specific cyclin-B3	Ccnb3 (Cycb3)	0	29	0	22
Q60664	Lymphoid-restricted membrane protein (Protein Jaw1) [Cleaved into: Processed lymphoid-restricted membrane protein]	Lrmp (Jaw1)	0	34	0	28
P14873	Microtubule-associated protein 1B (MAP-1B) (MAP1.2) (MAP1(X)) [Cleaved into: MAP1 light chain LC1]	Map1b (Mtap1b) (Mtap5)	0	490	0	44
P48036	Annexin A5 (Annexin-5) (Annexin V) (Lipocortin V) (Endonexin II) (Calphobindin I) (CBP-I) (Placental anticoagulant protein I) (PAP-I) (Placental anticoagulant protein 4) (PP4) (Thromboplastin inhibitor) (Vascular anticoagulant-alpha) (VAC-alpha) (Anchorin CII)	Anxa5 (Anx5)	36	202	5	16
Q61553	Fascin (Singed-like protein)	Fscn1 (Fan1) (Snl)	117	307	10	21

Pre-mRNA processing	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q5FW52	Uncharacterized protein C6orf142 homolog		0	25	0	2
	P10922	Histone H1.0 (Histone H1(0)) (Histone H1') (MyD196)	H1f0 (H1fv)	0	35	0	2
	Q9Z2X1	Heterogeneous nuclear ribonucleoprotein F (hnRNP F)	Hnrnpf (Hnrpf)	0	35	0	2
	Q91WW3	Mas-related G-protein coupled receptor member A3	Mrgpra3 (Mrga3)	0	26	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q62048	Astrocytic phosphoprotein PEA-15	Pea15 (Pea15a)	0	38	0	4
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	Q7TPD3	Roundabout homolog 2	Robo2 (Kiaa1568)	0	30	0	4
	O35490	Betaine--homocysteine S-methyltransferase 1 (EC 2.1.1.5)	Bhmt	0	28	0	5
	Q8BWG9	Calcium release-activated calcium channel protein 1 (Protein orai-1) (Transmembrane protein 142A)	Orai1 (Cracm1) (Tmem142a)	0	33	0	5
	Q60668	Heterogeneous nuclear ribonucleoprotein D0 (hnRNP D0) (AU-rich element RNA-binding protein 1)	Hnrnpd (Auf1) (Hnrpd)	0	34	0	5
	Q8BG05	Heterogeneous nuclear ribonucleoprotein A3 (hnRNP A3)	Hnrnpa3 (Hnrpa3)	0	34	0	5
	Q9ER58	Testican-2 (SPARC/osteonectin, CWCV, and Kazal-like domains proteoglycan 2)	Spock2 (Ticn2)	0	26	0	5
Q80WB0	Uncharacterized protein C20orf195 homolog		0	25	0	6	

Q9EQ06	Estradiol 17-beta-dehydrogenase 11 (EC 1.1.1.62) (17-beta-hydroxysteroid dehydrogenase 11) (17-beta-HSD 11) (17betaHSD11) (17bHSD11) (17-beta-HSD XI) (17betaHSDXI) (Dehydrogenase/reductase SDR family member 8)	Hsd17b11 (Dhrs8) (Pan1b)	0	26	0	6
Q64356	Seminal vesicle secretory protein 6 (Seminal vesicle secretory protein VI) (SVS VI) (Seminal vesicle protein 6) (SVSP99)	Svs6 (Svp6)	0	26	0	6
Q99K48	Non-POU domain-containing octamer-binding protein (NonO protein)	Nono	0	41	0	7
Q8BMQ2	General transcription factor 3C polypeptide 4 (EC 2.3.1.48) (Transcription factor IIIC subunit delta) (TF3C-delta) (TFIIIC 90 kDa subunit) (TFIIIC 90)	Gtf3c4	0	46	0	9
P15806	Transcription factor E2-alpha (Immunoglobulin enhancer-binding factor E12/E47) (Transcription factor 3) (TCF-3) (Transcription factor A1)	Tcf3 (Alf2) (Me2) (Tcfe2a)	0	28	0	9
Q80X17	Vomeromodulin		0	29	0	9
Q9DAA3	Uncharacterized protein C4orf36 homolog		0	26	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q400C8	Archaemetzincin-2 (EC 3.-.-) (Archeobacterial metalloproteinase-like protein 2)	Amz2	0	34	0	12
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
Q63844	Mitogen-activated protein kinase 3 (EC 2.7.11.24) (Extracellular signal-regulated kinase 1) (ERK-1) (Insulin-stimulated MAP2 kinase) (MAP kinase 1) (MAPK 1) (p44-ERK1) (ERT2) (p44-MAPK) (Microtubule-associated protein 2 kinase) (MNK1)	Mapk3 (Erk1) (Prkm3)	0	37	0	14

Q8JZQ9	Eukaryotic translation initiation factor 3 subunit B (eIF3b) (Eukaryotic translation initiation factor 3 subunit 9) (eIF-3-eta) (eIF3 p116)	Eif3b (Eif3s9)	0	52	0	16
Q8BJL1	F-box only protein 30	Fbxo30	0	39	0	16
P05622	Beta-type platelet-derived growth factor receptor (EC 2.7.10.1) (PDGF-R-beta) (CD140 antigen-like family member B) (CD antigen CD140b)	Pdgfrb (Pdgfr)	0	34	0	16
Q80TG1	Uncharacterized protein KIAA1267	Kiaa1267	0	36	0	18
P63085	Mitogen-activated protein kinase 1 (EC 2.7.11.24) (Extracellular signal-regulated kinase 2) (ERK-2) (Mitogen-activated protein kinase 2) (MAP kinase 2) (MAPK 2) (p42-MAPK) (ERT1)	Mapk1 (Erk2) (Mapk) (Prkm1)	0	112	0	19
Q91YR7	Pre-mRNA-processing factor 6 (U5 snRNP-associated 102 kDa protein) (U5-102 kDa protein) (PRP6 homolog)	Prpf6	0	25	0	22
Q9QXL2	Kinesin-like protein KIF21A	Kif21a (Kiaa1708)	0	45	0	23
Q8C636	Spermatogenesis-associated protein 16	Spata16	0	41	0	24
Q8BHZ4	Zinc finger protein 592 (Zfp-592)	Znf592 (Kiaa0211) (Zfp592)	0	26	0	24
Q9D9B4	Leucine-rich repeat-containing protein C10orf11 homolog		20	36	1	8
Q3UA16	Kinetochores protein Spc25	Spc25 (Spbc25)	16	81	6	15
Q7SIG6	Development and differentiation-enhancing factor 2 (Pyk2 C-terminus-associated protein) (PAP) (Paxillin-associated protein with ARFGAP activity 3) (PAG3)	Ddef2 (Gm1523) (Gm592)	36	43	7	17
Q99020	Heterogeneous nuclear ribonucleoprotein A/B (hnRNP A/B) (CArG-binding factor-A) (CBF-A)	Hnrpab (Cbf-a) (Cgbfa) (Hnrpab)	56	138	5	11
Q8VDX6	Transmembrane protein 5	Tmem5	22	28	5	11

	Q80YX1	Tenascin (TN) (Tenascin-C) (TN-C) (Hexabrachion)	Tnc (Hxb)	80	200	22	45
	Q99MS8	Tubulin polyglutamylase complex subunit 1 (PGs1) (p32)	Gtrgeo22	26	20	2	4
	Q62318	Transcription intermediary factor 1-beta (TIF1-beta) (Tripartite motif-containing protein 28) (KRAB-A-interacting protein) (KRIP-1)	Trim28 (Krip1) (Tif1b)	24	84	10	20
Enriched Molecular Function by Panther							
Term	Accession	Protein names	Genes	prot_score_WT	prot_score_KO	prot_matches_WT	prot_matches_KO
G-protein	O35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4
	Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
	Q8BG32	26S proteasome non-ATPase regulatory subunit 11 (26S proteasome regulatory subunit S9) (26S proteasome regulatory subunit p44.5)	Psm11	0	30	0	6
	Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
	P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9

	Q8C1B7	Septin-11	Sept11 (D5Ert606e)	0	30	0	9
	Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
	P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
	P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	Q9WVL3	Solute carrier family 12 member 7 (Electroneutral potassium-chloride cotransporter 4) (K-Cl cotransporter 4)	Slc12a7 (Kcc4)	0	27	0	24
	Q60664	Lymphoid-restricted membrane protein (Protein Jaw1) [Cleaved into: Processed lymphoid-restricted membrane protein]	Lrmp (Jaw1)	0	34	0	28
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q8R1B5	Complexin-3 (Complexin III) (CPX III)	Cplx3	16	29	2	4
Select regulatory molecule	Q35963	Ras-related protein Rab-33B	Rab33b	0	53	0	1
	Q91V41	Ras-related protein Rab-14	Rab14	0	53	0	2
	Q9JKM7	Ras-related protein Rab-37	Rab37	0	53	0	2
	P62823	Ras-related protein Rab-3C	Rab3c	0	53	0	2
	P61027	Ras-related protein Rab-10	Rab10	0	82	0	3
	Q504M8	Ras-related protein Rab-26	Rab26	0	53	0	3
	P63011	Ras-related protein Rab-3A	Rab3a	0	53	0	3
	Q9CZT8	Ras-related protein Rab-3B	Rab3b	0	53	0	3
	P62746	Rho-related GTP-binding protein RhoB	Rhob (Arhb)	0	82	0	3
	Q64G17	Putative acidic leucine-rich nuclear phosphoprotein 32 family member C	Anp32c	0	28	0	4
	Q923S9	Ras-related protein Rab-30	Rab30 (Rsb30)	0	53	0	4
	Q8CG50	Ras-related protein Rab-43	Rab43	0	53	0	4
	P46638	Ras-related protein Rab-11B	Rab11b	0	49	0	4
	Q8BHD0	Ras-related protein Rab-39A (Rab-39)	Rab39 (Rab39a)	0	53	0	4

P09103	Protein disulfide-isomerase (PDI) (EC 5.3.4.1) (Prolyl 4-hydroxylase subunit beta) (Cellular thyroid hormone-binding protein) (p55) (Erp59)	P4hb (Pdia1)	0	28	0	5
P58389	Serine/threonine-protein phosphatase 2A regulatory subunit B' (PP2A, subunit B', PR53 isoform) (Phosphotyrosyl phosphatase activator) (PTPA)	Ppp2r4 (Ptpa)	0	32	0	5
Q8BHC1	Ras-related protein Rab-39B	Rab39b	0	53	0	5
Q9ER58	Testican-2 (SPARC/osteonectin, CWCV, and Kazal-like domains proteoglycan 2)	Spock2 (Ticn2)	0	26	0	5
P27612	Phospholipase A-2-activating protein (PLAP)	Plaa (Plap)	0	27	0	6
Q3UM45	Protein phosphatase 1 regulatory subunit 7 (Protein phosphatase 1 regulatory subunit 22)	Ppp1r7 (Sds22)	0	35	0	6
P50396	Rab GDP dissociation inhibitor alpha (Rab GDI alpha) (Guanosine diphosphate dissociation inhibitor 1) (GDI-1)	Gdi1 (Rabgdi)	0	56	0	7
P57722	Poly(rC)-binding protein 3 (Alpha-CP3)	Pcbp3	0	122	0	8
Q9D1G1	Ras-related protein Rab-1B	Rab1b	0	91	0	8
P35279	Ras-related protein Rab-6A (Rab-6)	Rab6a (Rab6) (MNCb-1660)	0	76	0	9
Q8BSL7	ADP-ribosylation factor 2	Arf2	0	270	0	10
P35283	Ras-related protein Rab-12 (Rab-13)	Rab12	0	53	0	11
P35276	Ras-related protein Rab-3D	Rab3d	0	53	0	11
Q99MK9	Ras association domain-containing protein 1 (Protein 123F2)	Rassf1	0	29	0	11
Q60875	Rho guanine nucleotide exchange factor 2 (Guanine nucleotide exchange factor H1) (GEF-H1) (Lymphoid blast crisis-like 1) (LBC'S first cousin) (Oncogene LFC) (Rhobin)	Arhgef2 (Kiaa0651) (Lbcl1) (Lfc)	0	31	0	12
P14685	26S proteasome non-ATPase regulatory subunit 3 (26S proteasome regulatory subunit S3) (Proteasome subunit p58) (Transplantation antigen P91A) (Tum-P91A antigen)	Psm3 (P91a) (Tstap91a)	0	25	0	12

	P84084	ADP-ribosylation factor 5	Arf5	0	210	0	13
	Q80TE4	Signal-induced proliferation-associated 1-like protein 2 (SIPA1-like protein 2)	Sipa1l2 (Kiaa0545)	0	36	0	16
	Q3UTH8	Rho guanine nucleotide exchange factor 9 (Rac/Cdc42 guanine nucleotide exchange factor 9) (Collybistin)	Arhgef9 (Kiaa0424)	0	31	0	17
	Q810T2	G2/mitotic-specific cyclin-B3	Ccnb3 (Cycb3)	0	29	0	22
	Q8BIK4	Dedicator of cytokinesis protein 9 (Cdc42 guanine nucleotide exchange factor zizimin-1)	Dock9 (D14Wsu89e) (Kiaa1058)	0	28	0	25
	P61750	ADP-ribosylation factor 4	Arf4	21	56	2	8
	P35278	Ras-related protein Rab-5C	Rab5c	60	79	4	12
	P61205	ADP-ribosylation factor 3	Arf3	32	423	6	17
	Q61037	Tuberin (Tuberous sclerosis 2 homolog protein)	Tsc2	22	46	38	91
	P34022	Ran-specific GTPase-activating protein (Ran-binding protein 1) (RANBP1) (Hpal1 tiny fragments locus 9a protein)	Ranbp1 (Htf9-a) (Htf9a)	49	24	5	10
Protein phosphatase	Q9D7I8	Protein FAM83D	Fam83d	0	25	0	3
	P63087	Serine/threonine-protein phosphatase PP1-gamma catalytic subunit (PP-1G) (EC 3.1.3.16) (Protein phosphatase 1C catalytic subunit)	Ppp1cc	0	57	0	5
	P17408	Oncogene tlm	Tlm	0	26	0	5
	P63330	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform (PP2A-alpha) (EC 3.1.3.16)	Ppp2ca	0	101	0	6
	P48967	M-phase inducer phosphatase 3 (EC 3.1.3.48) (Dual specificity phosphatase Cdc25C)	Cdc25c (Cdc25m1)	0	33	0	7
	P57722	Poly(rC)-binding protein 3 (Alpha-CP3)	Pcbp3	0	122	0	8
	P35235	Tyrosine-protein phosphatase non-receptor type 11 (EC 3.1.3.48) (Protein-tyrosine phosphatase SYP) (SH-PTP2) (SHP-2) (Shp2)	Ptpn11	0	40	0	12

	Q7M6U3	Testis-expressed protein 14 (Testis-expressed sequence 14)	Tex14	0	28	0	14
	Q922D8	C-1-tetrahydrofolate synthase, cytoplasmic (C1-THF synthase) [Includes: Methylenetetrahydrofolate dehydrogenase (EC 1.5.1.5); Methenyltetrahydrofolate cyclohydrolase (EC 3.5.4.9); Formyltetrahydrofolate synthetase (EC 6.3.4.3)]	Mthfd1	0	25	0	16
	P83510	Traf2 and NCK-interacting protein kinase (EC 2.7.11.1)	Tnik (Kiaa0551)	0	54	0	17
	Q924W5	Structural maintenance of chromosomes protein 6 (mSMC6)	Smc6 (Kiaa4103) (Smc6l1)	0	38	0	21
	Q8C2E7	Strumpellin	Kiaa0196	0	40	0	22
	Q60664	Lymphoid-restricted membrane protein (Protein Jaw1) [Cleaved into: Processed lymphoid-restricted membrane protein]	Lrmp (Jaw1)	0	34	0	28
	O35239	Tyrosine-protein phosphatase non-receptor type 9 (EC 3.1.3.48) (Protein-tyrosine phosphatase MEG2) (PTPase-MEG2)	Ptpn9	17	29	2	4
Annexin	O70423	Membrane primary amine oxidase (EC 1.4.3.21) (Copper amine oxidase) (Semicarbazide-sensitive amine oxidase) (SSAO) (Vascular adhesion protein 1) (VAP-1)	Aoc3 (Vap1)	0	35	0	4
	O35639	Annexin A3 (Annexin-3) (Annexin III) (Lipocortin III) (Placental anticoagulant protein III) (PAP-III) (35-alpha calcimedlin)	Anxa3 (Anx3)	0	26	0	5
	P10107	Annexin A1 (Annexin-1) (Annexin I) (Lipocortin I) (Calpactin II) (Chromobindin-9) (p35) (Phospholipase A2 inhibitory protein)	Anxa1 (Anx1) (Lpc-1) (Lpc1)	0	26	0	6

	Q9R1T2	SUMO-activating enzyme subunit 1 (Ubiquitin-like 1-activating enzyme E1A)	Sae1 (Aos1) (Sua1) (Ubl1a1) (Uble1a)	0	62	0	6
	P97384	Annexin A11 (Annexin-11) (Annexin XI) (Calcyclin-associated annexin 50) (CAP-50)	Anxa11 (Anx11)	0	26	0	9
	P07356	Annexin A2 (Annexin-2) (Annexin II) (Lipocortin II) (Calpactin I heavy chain) (Chromobindin-8) (p36) (Protein I) (Placental anticoagulant protein IV) (PAP-IV)	Anxa2 (Anx2) (Cal1h)	0	51	0	9
	P60762	Mortality factor 4-like protein 1 (MORF-related gene 15 protein) (Transcription factor-like protein MRG15) (Testis-expressed gene 189 protein)	Morf411 (Mrg15) (Tex189)	0	33	0	9
	P56960	Exosome component 10 (Polymyositis/scleroderma autoantigen 2 homolog) (Autoantigen PM/Scl 2 homolog)	Exosc10 (Pmscl2)	0	27	0	12
	P97855	Ras GTPase-activating protein-binding protein 1 (EC 3.6.1.-) (G3BP-1) (ATP-dependent DNA helicase VIII) (HDH-VIII) (GAP SH3 domain-binding protein 1)	G3bp1 (G3bp)	0	75	0	15
	P48036	Annexin A5 (Annexin-5) (Annexin V) (Lipocortin V) (Endonexin II) (Calphobindin I) (CBP-I) (Placental anticoagulant protein I) (PAP-I) (Placental anticoagulant protein 4) (PP4) (Thromboplastin inhibitor) (Vascular anticoagulant-alpha) (VAC-alpha) (Anchorin CII)	Anxa5 (Anx5)	36	202	5	16
Other receptor	Q60654	Killer cell lectin-like receptor 7 (T-cell surface glycoprotein Ly-49G) (Lymphocyte antigen 49g) (Ly-49g)	Klra7 (Ly-49g) (Ly49g) (Ly49g4)	0	33	0	2
	Q61211	Ligatin	Lgtn	0	36	0	5
	P00375	Dihydrofolate reductase (EC 1.5.1.3)	Dhfr	0	38	0	8
	Q8K2Y7	39S ribosomal protein L47, mitochondrial (L47mt) (MRP-L47)	Mrpl47	0	26	0	8

Q88907	E3 SUMO-protein ligase PIAS1 (Protein inhibitor of activated STAT protein 1) (DEAD/H box-binding protein 1)	Pias1 (Ddxbp1)	0	31	0	9
Q3TPE9	Ankyrin repeat and MYND domain-containing protein 2	Ankmy2	0	25	0	11
Q9DAA3	Uncharacterized protein C4orf36 homolog		0	26	0	11
Q922D8	C-1-tetrahydrofolate synthase, cytoplasmic (C1-THF synthase) [Includes: Methylenetetrahydrofolate dehydrogenase (EC 1.5.1.5); Methenyltetrahydrofolate cyclohydrolase (EC 3.5.4.9); Formyltetrahydrofolate synthetase (EC 6.3.4.3)]	Mthfd1	0	25	0	16
P08071	Lactotransferrin (Lactoferrin) (EC 3.4.21.-)	Ltf	0	25	0	16
Q9Z2T6	Keratin, type II cuticular Hb5 (Type II hair keratin Hb5) (Keratin-85) (K85)	Krt85 (Krt2-18) (Krthb5)	36	193	14	33
P97861	Keratin, type II cuticular Hb6 (Type II hair keratin Hb6) (Keratin-86) (K86)	Krt86 (Krt2-10) (Krthb6)	36	183	14	31