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Tpr Misregulation in Hippocampal Neural Stem Cells in Mouse Models of Alzheimer's Disease

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Supplemental Figures and Tables

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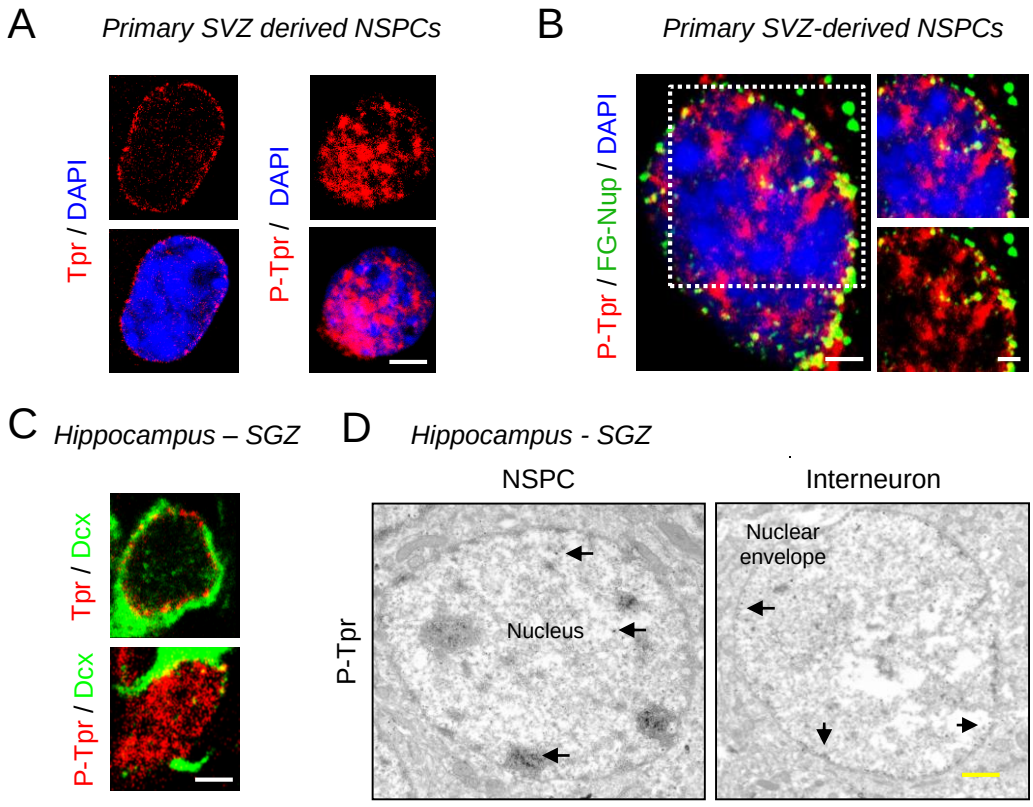
S1. Supplemental Figures

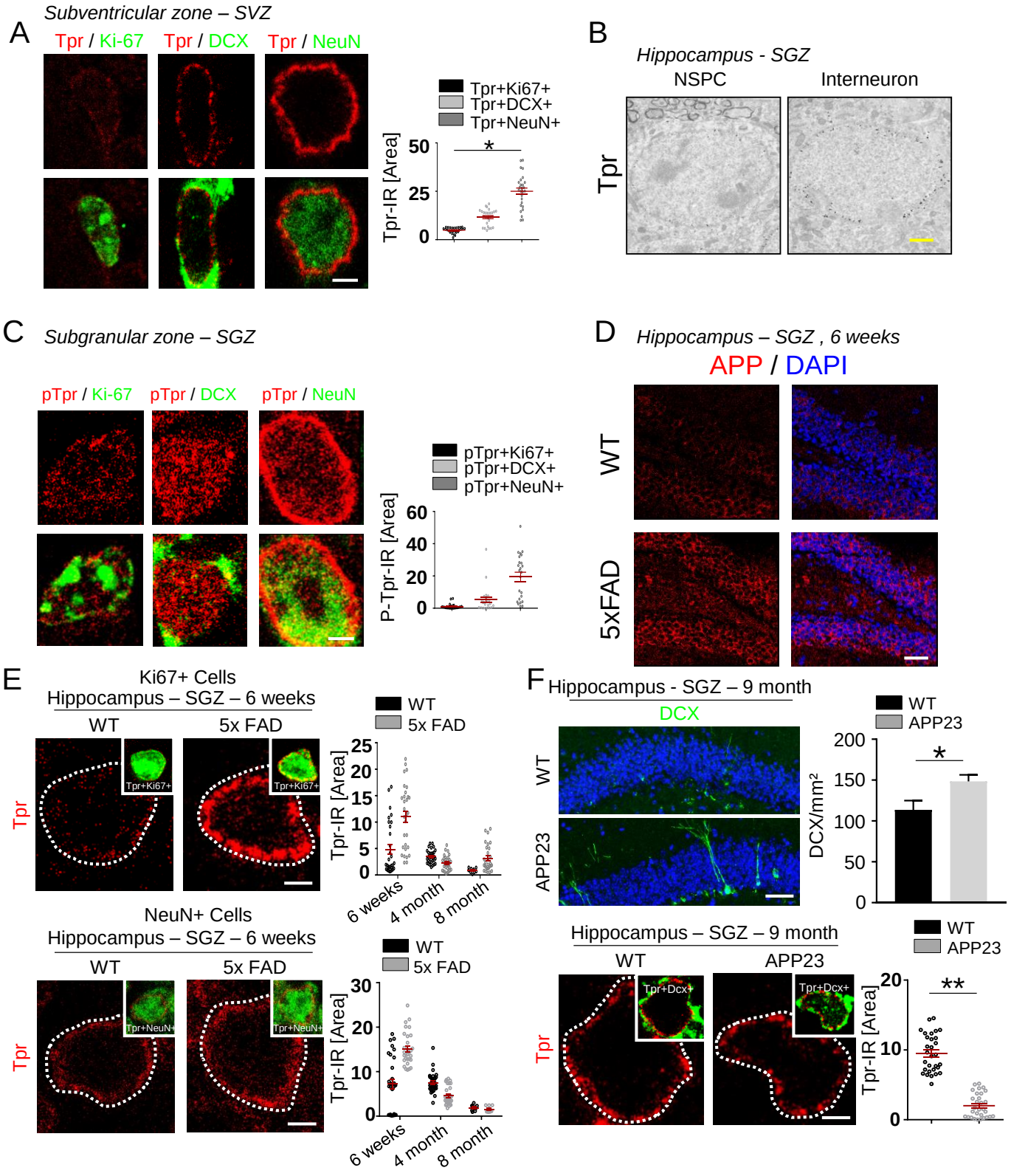
S*1.1 Tpr phosphorylation determines the subcellular localization in NSPCs of the hippocampus*



Supplemental Figure S1. Tpr phosphorylation determines the subcellular localization in NSPCs of the hippocampus.

(A) Immunolabeling for P-Tpr (red, right) and Tpr (red, left) in NSPCs *in vitro*. Nuclei are stained with DAPI (blue). Representative image from three independent experiments (A total number of 20 cells per Tpr or P-Tpr was analyzed). Scale bar: 3.3 µm. **(B)** Immunolabeling for P-Tpr (red) and FG-Nup (green) in NSPCs *in vitro*. Enlargements at the right indicate nuclear P-Tpr (red) localization in NSPCs. Nuclei are stained with DAPI (blue). Scale bars: 2 µm. **(C)** Immunolabeling for P-Tpr (red, right) or Tpr (red, left) in combination with DCX (green, marker for neuroblasts) in hippocampal SGZ NSPCs in adult WT mice. Representative image from three independent experiments (A total number of 20 cells per Tpr+DCX+ or P-Tpr+DCX+ cells was analyzed). Scale bar: 3.3 µm. **(D)** Electron microscopy determining the P-Tpr localization in NSPCs of the hippocampal SGZ in comparison to hippocampal interneurons in adult WT mice. Black arrows indicating nuclear P-Tpr (left) and nuclear envelope P-Tpr (right). Representative image from three independent experiments (A total number of 10 cells per NSPCs or interneurons for P-Tpr localization was analyzed). Scale bar: 1 µm.

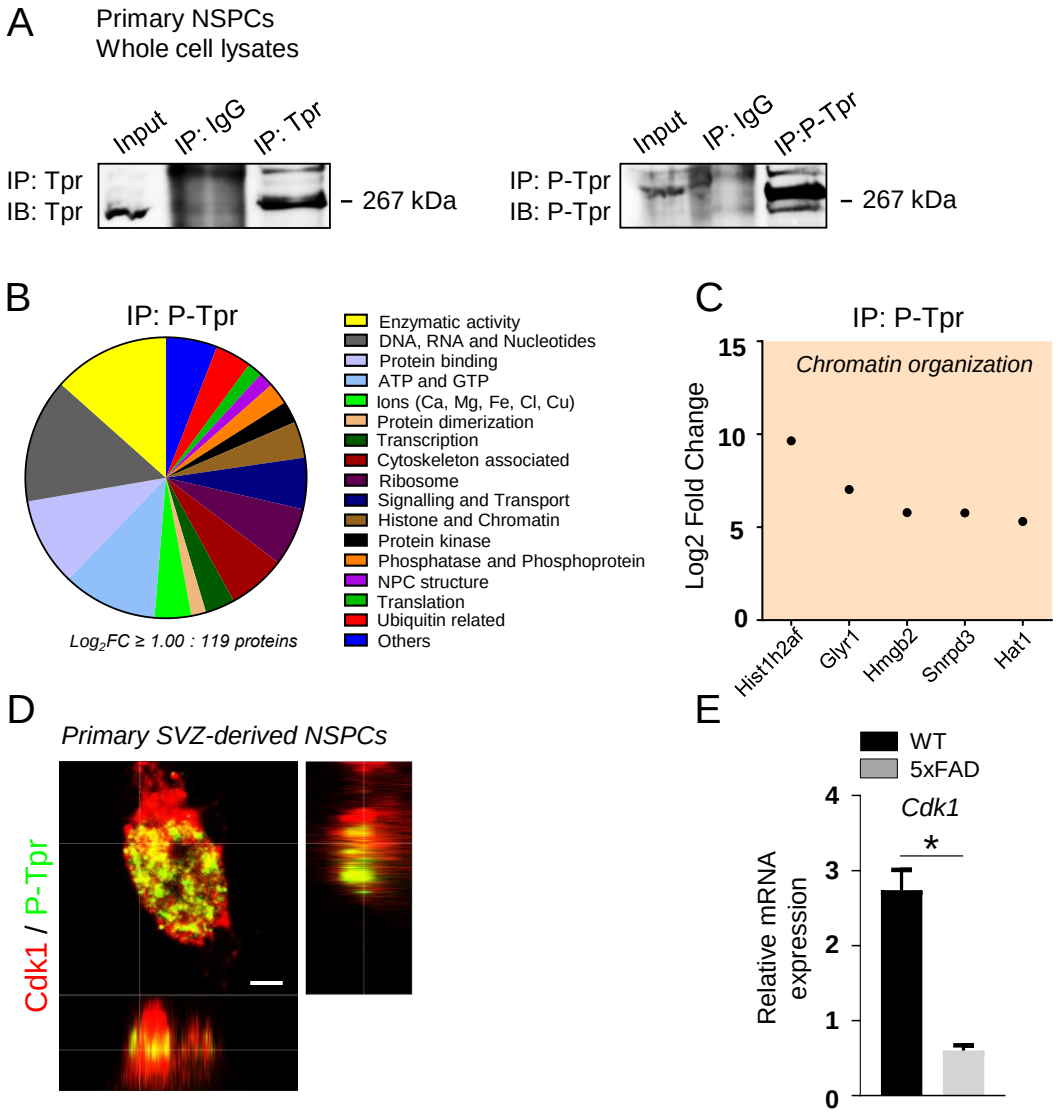
S1.2 Increased Tpr expression precedes hippocampal neurogenesis in 5xFAD mice



Supplemental Figure S2. Increased Tpr expression precedes hippocampal neurogenesis in 5xFAD mice.

(A) Immunolabeling for Tpr (red) and Ki-67, DCX, and NeuN (all red) in individual cells in the SVZ of adult WT mice. Quantification of Tpr immunoreactivity in Ki-67+, DCX+ and NeuN+ cells in the SVZ of adult WT mice (n = 3 mice, a total number of 27 single cells per Tpr+Ki-67+, Tpr+DCX+ or Tpr+NeuN+ condition were analyzed). Scale bar: 2 μm. Values are mean ± SEM (P-values calculated by one-way ANOVA and Bonferroni's multiple comparisons test, *P < 0.05). **(B)** Electron microscopy determining the Tpr expression in NSPCs of the hippocampal SGZ in comparison to hippocampal interneurons in adult WT mice (n = 2 mice, a total number of 10 single cells per NSPCs or interneurons for Tpr localization were analyzed). Scale bar: 1 μm. **(C)** Immunolabeling for P-Tpr (red) and Ki-67, DCX, and NeuN (all green) in individual cells in the SGZ of adult WT mice. Quantification of P-Tpr immunoreactivity in Ki-67+, DCX+ and NeuN+ cells in the SGZ of adult WT mice (n = 4 mice, a total number of 22-24 single cells per P-Tpr+Ki-67+, P-Tpr+DCX+ or P-Tpr+NeuN+ condition were analyzed). Scale bar: 2 μm. Values are mean ± SEM. **(D)** Immunolabeling for APP (red) in the hippocampus of 5xFAD mice in comparison to WT mice at 6 weeks of age. Representative images from n=3 mice. Scale bar: 50 μm. **(E)** Immunolabeling for Tpr (red) in individual cells in the SGZ of the hippocampus of 5xFAD mice compared to control mice sacrificed at 6 weeks of age (Inlets: Tpr+Ki67+ cells (top) and Tpr+NeuN+ cells (bottom) in the SGZ of the hippocampus). Scale bars: 2 μm. Quantification of Tpr immunoreactivity in Ki67+ cells and NeuN+ cells, respectively, in the hippocampal SGZ of 5xFAD mice compared to control mice at 6 weeks and 4 and 8 months of age (n =3 mice, a total number of 30-32 single cells of Ki67+ or NeuN+ cells at 6 weeks and 4 month in WT and 5X FAD mice were analyzed and a total number of 9 (WT mice) and 29 (5X FAD mice) single cells of Ki67+ or NeuN+ cells were analyzed at 8 month of age. **(F)** Immunolabeling for DCX (green) in the hippocampus of APP23 mice compared to control mice sacrificed at 9 months of age (top). Scale bar: 50 μm. Quantification of DCX+ cells in the hippocampal SGZ of APP23 mice compared to control mice at 9 months of age (n = 3 mice). Values are mean ± SEM (P-values calculated by unpaired Student's *t* test, *P < 0.05. Immunolabeling for Tpr (red) in the SGZ of the hippocampus of APP23 mice compared to control mice sacrificed at 9 months of age (Inlets: only Tpr+DCX+ cells in the SGZ of the hippocampus were analyzed) (n = 3 mice, a total number of 30 single cells for Tpr immunoreactivity in the hippocampal SGZ in WT and APP23 mice were analyzed). Scale bar: 2 μm. Quantification of Tpr immunoreactivity in DCX+ cells in the hippocampal SGZ of APP23 mice compared to control mice at 9 months of age. Values are mean ± SEM (P-values calculated by unpaired Student's *t* test, **P < 0.01).

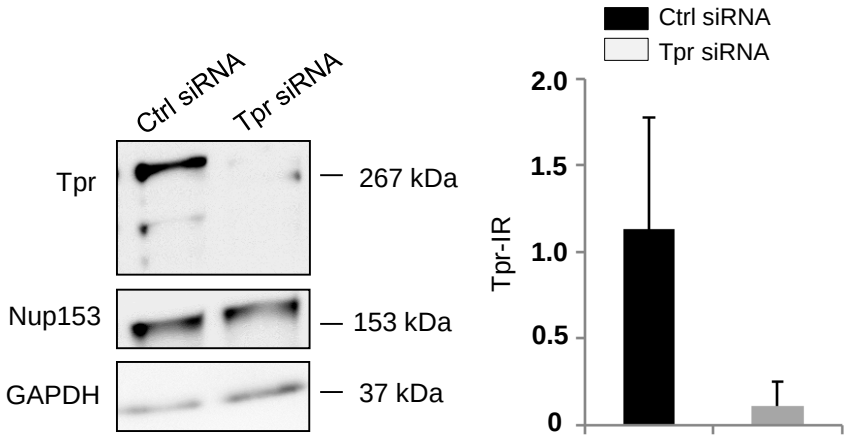
S1.3 Tpr and P-Tpr interactome in NSPCs



Supplemental Figure S3. Tpr and P-Tpr interactome in NSPCs.

(A) Co-immunoprecipitation (Co-IP) with Tpr and P-Tpr in whole-cell lysates of SVZ-derived NSPCs. Representative immunoblots from three independent experiments. **(B)** Pie chart of identified P-Tpr interaction partner in NSPCs classified via the Gene Ontology (GO) nomenclature. **(C)** Plot showing top five interaction partners with a log2 fold value ≥ 5.0 for P-Tpr involved in chromatin organization and control of stem cell fate. **(D)** Immunolabeling for Cdk1 (red) in combination with P-Tpr (red) revealing colocalization of P-Tpr with Cdk1 in the nucleus (yellow). Representative image from two independent experiments (a total number of 10 cells was analyzed). Scale bar: 3 µm. (**E**) Decreased Cdk1 gene expression in hippocampal SGZ tissue of 8-month-old 5xFAD mice compared to control mice (n = 2 mice per genotype) performed by RT-PCR analysis performed in duplicate (P-values calculated by student's t test, *P < 0.05).

S1.4 Tpr siRNA knockdown in primary NSPCs



Supplemental Figure S4. Tpr siRNA knockdown in primary NSPCs.

Protein expression of Tpr using lysate of NSPCs 1 day after electroporation with Tpr siRNA and scramble siRNA (control) determined by western blotting. Quantification of Tpr immunoreactivity in Tpr-depleted NSPCs compared to control cells. Ctrl, control; siRNA, small interfering RNA. Representative immunoblots are shown from two independent experiments.

S2. Supplemental Tables

S*2.1 Supplemental Table S1: Tpr-interacting proteins of WT adult NSPCs.*
Supplemental Table S1: Table showing 759 Tpr interacting proteins of WT adult NSPCs with a Log2 FC > 1.0.

Protein IDs	Protein names	Gene names	Unique peptides	Sequence coverage [%]	Log2 fold-change (FC) of LFQ intensity (a-TPR/IgG)
P25976	Nucleolar transcription factor 1	Ubtf	53	48,8	1,569809859
Q7JJ13	Bromodomain-containing protein 2	Brd2	44	54,6	1,830780269
Q3U0V1	Far upstream element-binding protein 2	Khsrp	40	57	1,197171454
E9Q5C9		Nolc1	44	43,7	1,329159023
Q8BTI8	Serine/arginine repetitive matrix protein 2	Srrm2	41	21,3	1,634042181
Q9JIX8	Apoptotic chromatin condensation inducer in the nucleus	Acin1	39	33,5	1,229755172
Q91VN6	Probable ATP-dependent RNA helicase DDX41	Ddx41	38	62,9	1,441561598
Q8BHL3	TBC1 domain family member 10B	Tbc1d10b	37	47	1,665057358
O54774	AP-3 complex subunit delta-1	Ap3d1	33	34,7	1,577511208
Q8K2F0;	Bromodomain-containing protein 3	Brd3	27	40,8	1,996823053

Q91Y44					
A2AQ19	RNA polymerase-associated protein RTF1 homolog	Rtf1	28	38	2,320407779
P62908	40S Ribosomal protein S3	Rps3	26	83,5	1,122783141
Q5F2E8	Serine/threonine-protein kinase TAO1	Taok1	22	25	2,043417601
A0A1Y7VKY1; F6YVP7; P62270	40S Ribosomal protein S18	Gm10260; Rps18	23	62,5	1,230576431
Q6NSQ7	Protein LTV1 homolog	Ltv1	22	54	2,934466665
P97868	E3 ubiquitin-protein ligase RBBP6	Rbbp6	22	19,4	2,121588475
O08784	Treacle protein	Tcof1	22	19,1	1,714693876
Q3UMU9	Hepatoma-derived growth factor-related protein 2	Hdgfrp2	22	37,1	1,355634343
Q3V1V3	ESF1 homolog	Esf1	21	25,7	2,582366338
Q8VDM6	Heterogeneous nuclear ribonucleoprotein U-like protein 1	Hnrnpul1	20	33,8	1,330628683
P23116	Eukaryotic translation initiation factor 3 subunit A	Eif3a	19	17,6	1,67169448
Q8R1B4	Eukaryotic translation initiation factor 3 subunit C	Eif3c	19	22,1	1,156168458
P55096	ATP-binding cassette sub-family D member 3	Abcd3	19	32,5	1,143131998
Q8BGS1	Band 4.1-like protein 5	Epb41l5	18	36,1	1,683164414
Q9QZF2	Glypican-1; Secreted glypican-1	Gpc1	17	39,3	1,109327499
Q9D6Z1	Nucleolar protein 56	Nop56	17	32,2	1,075016063
P30415	NK-tumor recognition protein; Putative peptidyl-prolyl cis-trans isomerase	Nktr	16	16,4	1,904342155
P63089	Pleiotrophin	Ptn	16	61,9	1,6521214
P62852	40S Ribosomal protein S25	Rps25	16	55,2	1,211770512
Q8C5N3; A2AK44; A2AK42	Pre-mRNA-splicing factor CWC22 homolog	Cwc22; Gm13695; Gm13697	15	18,1	2,557003563
Q52KI8	Serine/arginine repetitive matrix protein 1	Srrm1	15	17,1	2,300792903
P70318	Nucleolysin TIAR	Tial1	10	46,9	1,764555209
Q9DC71	28S Ribosomal protein S15, mitochondrial	Mrps15	15	45,7	1,48289261
Q91WJ8	Far-upstream element-binding protein 1	Fubp1	15	32,4	1,426133106

O70503	Very-long-chain 3-oxoacyl-CoA reductase	Hsd17b12	15	49	1,245107691
Q64512	Tyrosine-protein phosphatase non-receptor type 13	Ptpn13	14	7,7	4,684448381
P40201; E9PZM4	Chromodomain-helicase-DNA-binding protein 1	Chd1	14	11,7	2,623603558
P97376	Protein FRG1	Frg1	14	41,1	2,109152979
Q60932	Voltage-dependent anion-selective channel protein 1	Vdac1	14	63,5	1,85475873
Q7TNV0	Protein DEK	Dek	14	28,7	1,749429026
P11031	Activated RNA polymerase II transcriptional coactivator p15	Sub1	14	63	1,487430892
Q6ZQ38	Cullin-associated NEDD8-dissociated protein 1	Cand1	13	13,4	1,451981026
Q9WVA3	Mitotic checkpoint protein BUB3	Bub3	14	51,2	1,271692235
Q6P542	ATP-binding cassette sub-family F member 1	Abcf1	13	22,6	3,805878161
D3Z0M9		Ddx23	13	20	1,667425576
A2AR02	Peptidyl-prolyl cis-trans isomerase G	Ppig	13	15,2	1,40428315
Q8BKC5	Importin-5	Ipo5	13	16,3	1,394805135
Q9ERI5	Bifunctional arginine demethylase and lysyl-hydroxylase JMJD6	Jmjd6	13	42,2	1,23916841
Q80WJ7	Protein LYRIC	Mtdh	13	35,2	1,020763496
Q3UFY8	Mitochondrial ribonuclease P protein 1	Trmt10c	12	36	4,055607206
Q8K0C4	Lanosterol 14-alpha demethylase	Cyp51a1	12	26,6	3,187238185
Q8BMC4	Nucleolar protein 9	Nop9	12	28,1	1,953765849
O55143; Q8R429; Q64518	Sarcoplasmic/endoplasmic reticulum calcium ATPase 2	Atp2a2	12	17,4	1,93219986
Q9ESX5	H/ACA ribonucleoprotein complex subunit 4	Dkc1	12	33,8	1,570576343
Q9CR62	Mitochondrial 2-oxoglutarate/malate carrier protein	Slc25a11	12	40,1	1,544761529
Q9R0N3	Synaptotagmin-11	Syt11	12	36,7	1,106520452
Q9DBG6	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 2	Rpn2	12	31,1	1,075666201
A2A6A1	G patch domain-containing protein 8	Gpatch8	11	8,8	5,127961262
Q9JKF1	Ras GTPase-activating-like protein IQGAP1	Iqgap1	11	10,3	4,714841555

Q99LX5	Multiple myeloma tumor-associated protein 2 homolog	Mmtag2	11	47,7	3,623905227
Q9Z1G4	V-type proton ATPase 116 kDa subunit a isoform 1	Atp6v0a1	11	16,6	2,616872227
Q9R020	Zinc-finger Ran-binding domain-containing protein 2	Zranb2	11	31,5	2,378296745
P67984	60S Ribosomal protein L22	Rpl22	10	70,3	1,606827152
Q07646	Mesoderm-specific transcript protein	Mest	11	36,7	1,565936918
Q8VD75	Huntingtin-interacting protein 1	Hip1	11	14,2	1,520339636
Q9D4J7	PHD finger protein 6	Phf6	11	39,3	1,304397979
P51655	Glypican-4; Secreted glypican-4	Gpc4	10	26	1,208546295
P52019	Squalene monooxygenase	Sqle	11	28,7	1,050630992
Q9WVK4	EH domain-containing protein 1	Ehd1	9	29,2	12,68575623
Q64133	Amine oxidase [flavin-containing] A	Maoa	10	25,7	2,520346966
Q9CY27	Very-long-chain enoyl-CoA reductase	Tecr	10	26,3	1,814151222
Q08288	Cell growth-regulating nucleolar protein	Lyar	10	24,2	1,78693155
E9Q557	Desmoplakin	Dsp	10	4,2	1,514336417
Q60930	Voltage-dependent anion-selective channel protein 2	Vdac2	10	43,7	1,283168863
Q99LC3	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial	Ndufa10	9	31	13,34789814
Q91UZ1	Phosphoinositide phospholipase C	Plcb4	9	8,5	11,39156582
P62141	Serine/threonine-protein phosphatase PP1-beta catalytic subunit	Ppp1cb	2	38,5	10,60917874
Q99P88	Nuclear pore complex protein Nup155	Nup155	9	9,3	4,256093489
Q8K224	N-acetyltransferase 10	Nat10	9	10,1	3,653141754
Q6NV83	U2 snRNP-associated SURP motif-containing protein	U2surp	9	10,3	3,405930634
Q8QZY1	Eukaryotic translation initiation factor 3 subunit L	Eif3l	9	20,4	2,826637372
Q3UQU0	Bromodomain-containing protein 9	Brd9	9	21,5	2,730081234
Q9DBR0	A-Kinase anchor protein 8	Akap8	9	23,3	2,695930757
Q5F2E7	Nuclear fragile X mental retardation-interacting protein 2	Nufip2	9	21,4	2,665465576
Q9CS00	Cactin	Cactin	9	15,2	2,494941284
P06151;	L-Lactate dehydrogenase A chain	Ldha	9	29,5	2,221730093

P00342					
Q3TVI8	Pre-B-cell leukemia transcription factor-interacting protein 1	Pbxip1	9	16	2,097903481
Q05D44	Eukaryotic translation initiation factor 5B	Eif5b	9	11,3	1,749933916
Q9Z1T1	AP-3 complex subunit beta-1	Ap3b1	7	11	1,681449316
Q9D0M3	Cytochrome c1, heme protein, mitochondrial	Cyc1	9	38,2	1,236597124
O08547	Vesicle-trafficking protein SEC22b	Sec22b	9	34	1,163500498
P97762	Retinitis pigmentosa 9 protein homolog	rp9	9	33,8	1,048972924
A2AJT4	Arginine/serine-rich protein PNISR	Pnisr	8	9,6	13,34151882
Q99ME9	Nucleolar GTP-binding protein 1	Gtpbp4	8	16,1	12,49832567
Q6P9S0	MTSS1-like protein	Mtss1l	8	21	12,2625647
Q9CSP9	Tetratricopeptide repeat protein 14	Ttc14	8	12,7	4,261251796
Q9ESU6	Bromodomain-containing protein 4	Brd4	8	11,5	2,78047406
Q6PDM2; Q9D0B0	Serine/arginine-rich splicing factor 1	Srsf1	8	37,1	2,589945724
Q61543	Golgi apparatus protein 1	Glg1	8	11,4	2,578721452
Q3UMQ8	H/ACA ribonucleoprotein complex non-core subunit NAF1	Naf1	8	31,1	2,376996492
Q9CR80	Protein FAM32A	Fam32a	8	48,2	2,302596004
Q921I2	Kelch domain-containing protein 4	Klhdc4	8	18,5	2,099199111
Q8BMA6	Signal recognition particle subunit SRP68	Srp68	8	19,7	1,820212035
O55128	Histone deacetylase complex subunit SAP18	Sap18	8	45,1	1,807422151
Q9ESW4	Acylglycerol kinase, mitochondrial	Agk	8	26,8	1,664031769
P47856	Glutamine-fructose-6-phosphate aminotransferase [isomerizing] 1	Gfpt1	7	17,8	1,516397856
Q9D8X2	Coiled-coil domain-containing protein 124	Ccdc124	8	35,5	1,458399982
Q8VEM8	Phosphate carrier protein, mitochondrial	Slc25a3	8	26,6	1,310700537
Q99N93	39S ribosomal protein L16, mitochondrial	Mrpl16	8	31,9	1,189945134
Q8BMJ3;Q60872;J3QNT6;Q3UTA4;Q3TQZ4;J3QQ02;J3QPI8;J3QP87;A0	Eukaryotic translation initiation factor 1A, X-chromosomal; Eukaryotic translation initiation factor 1A	Eif1ax;Eif1a	8	69,4	1,156827885

A1Y7VNG9;A0A1Y7VLT7;A0A1Y7VK80;A0A1Y7VJE9;Q8BX20;Q3UT53;J3QMW5					
P24369	Peptidyl-prolyl cis-trans isomerase B	Ppib	8	41,2	1,096503284
Q91VA7	Isocitrate dehydrogenase [NAD] subunit, mitochondrial	Idh3b	8	27,6	1,083705815
Q3UY34	Uncharacterized protein C12orf43 homolog		7	49,6	12,4655409
Q91X97; P84075	Neurocalcin-delta	Ncald	5	34,2	12,3343571
Q8BG79	CWF19-like protein 2	Cwf19l2	7	9,5	12,14602764
P62874; P29387; Q61011	Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-1	Gnb1	2	26,5	10,23876298
Q6GQS1	Calcium-binding mitochondrial carrier protein SCaMC-3	Slc25a23	7	21,2	4,438015112
Q9DBF7	Pre-mRNA-splicing factor CWC25 homolog	Cwc25	7	16,1	2,926923208
Q9D710	Thioredoxin-related transmembrane protein 2	Tmx2	7	30,5	2,414742526
Q80X85	28S Ribosomal protein S7, mitochondrial	Mrps7	7	42,1	2,180286639
Q9CVI2	Protein FAM133B	Fam133b	7	27,8	2,060257099
P83887; Q8VCK3	Tubulin gamma-1 chain; Tubulin gamma-2 chain	Tubg1; Tubg2	7	26,8	2,059437414
Q9D328	Transmembrane protein 35	Tmem35	7	23,4	1,643186899
P97807	Fumarate hydratase, mitochondrial	Fh	7	22,9	1,520132022
Q8VHE0	Translocation protein SEC63 homolog	Sec63	7	12,6	1,281150847
P06745; CON__Q3ZBD7	Glucose-6-phosphate isomerase	Gpi	7	23,1	1,217423794
Q9EPL8	Importin-7	Ipo7	7	7,5	1,085930743
Q9R087	Glypican-6; Secreted glypican-6	Gpc6	7	20,9	1,073599996
P61222	ATP-binding cassette sub-family E member 1	Abce1	7	15,4	1,070229698
Q8R323	Replication factor C subunit 3	Rfc3	7	21,9	1,025277644

P08752; B2RSH2; Q9DC51; P20612; Q3V3I2; P50149; P18872; Q8CGK7	Guanine nucleotide-binding protein G(i) subunit alpha-2; Guanine nucleotide-binding protein G(i) subunit alpha-1	Gnai2; Gnai1	6	23,9	1,019123775
Q9CWX9	Probable ATP-dependent RNA helicase DDX47	Ddx47	6	20,2	12,48728736
Q8BGH4	Receptor expression-enhancing protein 1	Reep1	6	29,9	12,1365426
Q8BU14	Translocation protein SEC62	Sec62	6	12,1	11,92224989
Q8BYC6	Serine/threonine-protein kinase TAO3	Taok3	6	10,1	11,49255424
Q9CS84	Neurexin-1	Nrxn1	4	5	10,84180019
O88665	Bromodomain-containing protein 7	Brd7	6	15,5	4,686056343
Q8C4U3	Secreted frizzled-related protein 1	Sfrp1	6	27,1	4,181750437
O88844	Isocitrate dehydrogenase [NADP] cytoplasmic	Idh1	6	21,3	3,675409449
Q9D0K1	Peroxisomal membrane protein PEX13	Pex13	6	21,5	3,315077529
Q8BHF7	CDP-diacylglycerol-glycerol-3-phosphate 3-phosphatidyltransferase, mitochondrial	Pgs1	6	14,8	2,865103453
Q922B2	Aspartate-tRNA ligase, cytoplasmic	Dars	6	16,2	2,829998016
Q8BVY0	Ribosomal L1 domain-containing protein 1	Rsl1d1	6	13,1	2,635821123
P58059	28S Ribosomal protein S21, mitochondrial	Mrps21	6	65,5	2,509061984
O88455	7-Dehydrocholesterol reductase	Dhcr7	6	15,9	2,272261634
Q9D023	Mitochondrial pyruvate carrier 2	Mpc2	6	47,2	2,269749605
Q61070	Etoposide-induced protein 2.4	Ei24	6	15,6	2,159615199
Q8C2Q3; J3QN51; B0LM42; F7BGR7	RNA-binding protein 14	Rbm14	6	13	1,991782654
Q922J9	Fatty acyl-CoA reductase 1	Far1	6	15,5	1,870304568
Q9CPW7	Zinc-finger matrin-type protein 2	Zmat2	6	25,6	1,866563441
Q9R1C7	Pre-mRNA-processing factor 40 homolog A	Prpf40a	6	7,8	1,818505391

Q5XJY5	Coatomer subunit delta	Arcn1	6	17,8	1,804023843
Q80XU3	Nuclear ubiquitous casein and cyclin-dependent kinase substrate 1	Nucks1	6	24,8	1,702846216
Q6P3B9	Putative ribosome-binding factor A, mitochondrial	Rbfa	6	25,4	1,5557011
Q60931	Voltage-dependent anion-selective channel protein 3	Vdac3	6	21,6	1,552062861
Q9QYF1	Retinol dehydrogenase 11	Rdh11	6	23,1	1,441371215
Q9CQU3	Protein RER1	Rer1	6	37,8	1,345395073
Q9D0F4; Q5SZT7	NF-kappa-B-activating protein	Nkap;Nkapl	6	16,1	1,295856175
P83882; A0A2I3BPG9; A0A0A6YW33	60S ribosomal protein L36a	Rpl36a;Gm6525	6	27,4	1,288763667
P51880	Fatty acid-binding protein, brain	Fabp7	6	43,9	1,173321545
Q8BG32	26S proteasome non-ATPase regulatory subunit 11	Psmd11	6	17,3	1,068507925
Q9CQ69	Cytochrome b-c1 complex subunit 8	Uqcrq	6	61	1,034471864
Q9EPJ9	ADP-ribosylation factor GTPase-activating protein 1	Arfgap1	5	18,6	11,69252833
E9Q4F7		Ankrd11	5	2,4	11,63058567
Q9DBU6	Serine/arginine-related protein 53	Rsrc1	5	22,8	11,59781979
P97432	Next to BRCA1 gene 1 protein	Nbr1	5	6,4	11,51412226
Q5HZI9	Solute carrier family 25 member 51	Slc25a51	5	19,1	11,40482225
Q07235	Glia-derived nexin	Serpine2	5	14,6	11,26426665
Q922R8	Protein disulfide-isomerase A6	Pdia6	5	23,2	11,23302043
P60122	RuvB-like 1	Ruvbl1	5	16,9	10,98598421
E9QAT4		Sec16a	5	3,3	10,95441444
Q69ZS7	HBS1-like protein	Hbs1l	5	9,5	10,94097422
Q5U3K5	Rab-like protein 6	Rabl6	5	8,8	10,90726625
P26039; Q71LX4	Talin-1	Tln1	5	3,3	9,229179319
Q3TKT4	Transcription activator BRG1	Smarca4	2	3,8	8,424754167
Q9D517	1-acyl-sn-glycerol-3-phosphate acyltransferase gamma	Agpat3	5	13,6	4,103219273
Q9DCN2	NADH-cytochrome b5 reductase 3; NADH-cytochrome b5 reductase 3 membrane-bound form; NADH-cytochrome b5 reductase 3 soluble form	Cyb5r3	5	22,3	3,947461779

P58021	Transmembrane 9 superfamily member 2	Tm9sf2	5	9,2	3,895936638
Q61598; P50396	Rab GDP dissociation inhibitor beta	Gdi2	5	18,7	3,464047134
Q8BP92	Reticulocalbin-2	Rcn2	5	19,1	3,335080677
Q7TN98; Q812E0; Q7TN99	Cytoplasmic polyadenylation element-binding protein 4	Cpeb4	5	9,5	3,271948918
F6TVX7; Q8BSF4	Phosphatidylserine decarboxylase proenzyme; Phosphatidylserine decarboxylase alpha chain; Phosphatidylserine decarboxylase beta chain	Gm20671;Pisd	5	11,8	3,182982998
Q8BLH7	HIRA-interacting protein 3	Hirip3	5	12,6	3,084734742
Q5HZG4	Transcription initiation factor TFIID subunit 3	Taf3	5	7,7	2,6269542
Q8BKI2	Trinucleotide repeat-containing gene 6B protein	Tnrc6b	5	5	2,532729198
Q8R3N1	Nucleolar protein 14	Nop14	5	7,4	2,513148161
Q3THK3	General transcription factor IIF subunit 1	Gtf2f1	5	13,6	2,465057564
Q8R2M2	Deoxynucleotidyltransferase terminal-interacting protein 2	Dnttip2	5	8,3	2,433993768
Q8BP47	Asparagine--tRNA ligase, cytoplasmic	Nars	5	10,9	2,42619632
P70296	Phosphatidylethanolamine-binding protein 1; Hippocampal cholinergic neurostimulating peptide	Pebp1	5	44,9	2,366572398
Q99LC5	Electron transfer flavoprotein subunit alpha, mitochondrial	Etfa	5	22,2	2,227551819
Q91XC9	Peroxisomal membrane protein PEX16	Pex16	5	18,5	2,164524774
Q80VA0	N-Acetylgalactosaminyltransferase 7	Galnt7	5	13,4	2,036034347
Q3UUQ7	GPI inositol-deacylase	Pgap1	5	7,4	1,745372182
Q6ZPZ3	Zinc-finger CCCH domain-containing protein 4	Zc3h4	5	8,5	1,694537053
E9PUQ3		AU019823	5	20,2	1,544314993
Q99LY9	NADH dehydrogenase [ubiquinone] iron-sulfur protein 5; NADH dehydrogenase [ubiquinone] iron-sulfur protein 5, N-terminally processed	Ndufs5	5	28,3	1,34899142

Q0VG62	Uncharacterized protein C8orf59 homolog		5	48,5	1,285845151
Q9D1F0		Cxx1a	5	33,6	1,253276192
Q9R1J0	Sterol-4-alpha-carboxylate 3-dehydrogenase, decarboxylating	Nsdhl	5	17,4	1,248456403
Q80UM3; Q9DBB4	N-Alpha-acetyltransferase 15, NatA auxiliary subunit	Naa15	5	6,1	1,222759739
Q4QQM4	Tumor protein p53-inducible protein 11	Trp53i11	5	24,3	1,222004418
Q8VCL2	Protein SCO2 homolog, mitochondrial	Sco2	5	32,2	1,129699616
P35278; P61021	Ras-related protein Rab-5C	Rab5c	3	27,3	1,087536163
Q64521	Glycerol-3-phosphate dehydrogenase, mitochondrial	Gpd2	5	7,6	1,06656929
Q9CPQ8	ATP synthase subunit g, mitochondrial	Atp5l	5	47,6	1,047765484
P62849	40S ribosomal protein S24	Rps24	5	30,1	1,00757959
Q99J99	3-mercaptopyruvate sulfurtransferase	Mpst	4	23,6	11,93129155
Q8VDP2	UPF0428 protein CXorf56 homolog		4	22,1	11,80207202
Q9CQV1	Mitochondrial import inner membrane translocase subunit TIM16	Pam16	4	49,6	11,76109408
Q8CI11	Guanine nucleotide-binding protein-like 3	Gnl3	4	13,2	11,0146482
Q8VI75	Importin-4	Ipo4	4	4,3	10,99604973
Q3TDQ1	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit STT3B	Stt3b	4	7,7	10,97935374
Q8C163	Nuclease EXOG, mitochondrial	Exog	4	16,6	10,84509796
Q920Q6	RNA-binding protein Musashi homolog 2	Msi2	4	13,9	10,84399954
Q02257	Junction plakoglobin	Jup	4	7,7	10,74155125
P35486	Pyruvate dehydrogenase E1 component subunit alpha, somatic form, mitochondrial	Pdha1	4	17,2	10,70856662
Q7TQ95	Protein lunapark	Lnp	4	13,2	10,69939894
Q3TFK5	G patch domain-containing protein 4	Gpatch4	4	15,4	10,64015454
Q6ZPL9	ATP-dependent RNA helicase DDX55	Ddx55	4	10,3	10,6319955

E9Q3G8		Nup153	4	4,6	10,56814614
Q6PB66	Leucine-rich PPR motif-containing protein, mitochondrial	Lrpprc	4	5	10,46454575
Q9DAW9	Calponin-3	Cnn3	4	17,3	10,25903704
Q8CJG0; Q8CJF9	Protein argonaute-2	Ago2	4	6,9	10,11022228
Q61749	Translation initiation factor eIF-2B subunit delta	Eif2b4	4	13,2	10,09539702
Q64514	Tripeptidyl-peptidase 2	Tpp2	4	3,6	10,09011242
A0A0J9YUD5			4	2,6	9,895014757
E9Q7X7		Nrxn2	4	5,3	9,783996778
Q9R1T2	SUMO-activating enzyme subunit 1; SUMO-activating enzyme subunit 1, N-terminally processed	Sae1	4	19,7	9,686500527
Q9DBG3; O35643	AP-2 complex subunit beta	Ap2b1	4	5,8	9,643459394
Q9EQP2	EH domain-containing protein 4	Ehd4	3	8,1	9,287158278
Q99NB9	Splicing factor 3B subunit 1	Sf3b1	4	4,7	9,074328814
Q9D0M1	Phosphoribosyl pyrophosphate synthase-associated protein 1	Prpsap1	4	15,4	8,840400288
Q8C6B9	Active regulator of SIRT1	Rps19bp1	4	42	4,693739576
Q9CQ54	NADH dehydrogenase [ubiquinone] 1 subunit C2	Ndufc2	4	20,8	4,53900926
Q921V5	Alpha-1,6-mannosyl-glycoprotein 2-beta-N-acetylglucosaminyltransferase	Mgat2	4	13,3	3,180016519
P61620; Q9JLR1	Protein transport protein Sec61 subunit alpha isoform 1	Sec61a1	4	10,9	2,774104687
Q8C1S0	Mediator of RNA polymerase II transcription subunit 19	Med19	4	31,6	2,677165983
Q8BTU1	Cilia- and flagella-associated protein 20	Cfap20	4	25,4	2,491967475
P19258	Protein Mpv17	Mpv17	4	25	2,203934832
Q924Z4	Ceramide synthase 2	Cers2	4	11,3	2,128952547
P52293	Importin subunit alpha-1	Kpna2	4	11,7	2,123164155
Q01721	Growth arrest-specific protein 1	Gas1	4	25,4	2,025649586
Q8R0A0	General transcription factor IIF subunit 2	Gtf2f2	4	22,5	1,988784564
P19783	Cytochrome c oxidase subunit 4 isoform 1, mitochondrial	Cox4i1	4	30,8	1,890080375

Q9CXU9; P48024	Eukaryotic translation initiation factor 1b; Eukaryotic translation initiation factor 1	Eif1b;Eif1	4	36,3	1,857085932
Q9ERS2	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13	Ndufa13	4	29,9	1,648583853
Q91VU0	Protein FAM3C	Fam3c	4	17,6	1,568442268
A0A0J9YTR2			4	38,9	1,521739224
Q60714	Long-chain fatty acid transport protein 1	Slc27a1	4	11	1,515725525
Q9JIG8; A0A140LJ36	PRA1 family protein 2	Praf2	4	20,8	1,443652639
P52912	Nucleolysin TIA-1	Tia1	4	22,8	1,358228368
Q9JKW0	ADP-ribosylation factor-like protein 6-interacting protein 1	Arl6ip1	4	16,7	1,189137625
Q99PL7; P13516; P13011; Q6T707	Acyl-CoA desaturase 1; Acyl-CoA desaturase 2	Scd3;Scd1;Scd2;Scd4	4	7,2	1,164236982
Q8R127	Saccharopine dehydrogenase-like oxidoreductase	Sccpdh	4	10	1,141404163
Q6PCM2	Integrator complex subunit 6	Ints6	4	5,3	1,047590042
P70213	Friend virus susceptibility protein 1	Fv1	4	12,4	1,034038461
Q9D6K8	FUN14 domain-containing protein 2	Fundc2	3	23,2	12,81051139
Q8VD00	Transmembrane protein 97	Tmem97	3	15,9	12,45249866
Q80TJ7; Q9WTU0	Histone lysine demethylase PHF8	Phf8	3	4,8	11,94251451
O35988	Syndecan-4	Sdc4	3	19,7	11,93520189
P63330 ;P62715	Serine/threonine-protein phosphatase 2A catalytic subunit alpha isoform; Serine/threonine-protein phosphatase 2A catalytic subunit beta isoform	Ppp2ca; Ppp2cb	3	16,2	11,33594857
Q8C6C7	Protein FAM204A	Fam204a	3	35,6	11,21377254
Q9ESX4	Nucleolar protein of 40 kDa	Zcchc17	3	13,3	11,08766173
Q4V9W2	Protein SREK1IP1	Srek1ip1	3	20,9	11,02292259
Q3UMM4	Cyclin-dependent kinase 10	Cdk10	3	9,7	10,95963976
Q91Z92	Beta-1,3-galactosyltransferase 6	B3galt6	3	12,6	10,94434603
Q9CRB2	H/ACA ribonucleoprotein complex subunit 2	Nhp2	3	28,1	10,89875253
P35979	60S ribosomal protein L12	Rpl12	3	28,5	10,88218449

Q9JJE4	Progestin and adipoQ receptor family member 4	Paqr4	3	11,7	10,87950667
Q8R5J9	PRA1 family protein 3	Arl6ip5	3	19,7	10,85992297
P83510	Traf2 and NCK-interacting protein kinase	Tnik	3	6	10,60529431
Q9D5T0	ATPase family AAA domain-containing protein 1	Atad1	3	13,6	10,60334816
Q99N85	28S ribosomal protein S18a, mitochondrial	Mrps18a	3	23	10,55276515
O35295; P42669	Transcriptional activator protein Pur-beta	Purb	3	17,9	10,51796459
Q9DA19	Corepressor interacting with RBPJ 1	Cir1	3	11,3	10,47482133
O70480	Vesicle-associated membrane protein 4	Vamp4	3	23,4	10,4708622
Q9WU56	tRNA pseudouridine synthase A, mitochondrial	Pus1	3	10,6	10,43858396
Q8VCS3	Glycosaminoglycan xylosylkinase	Fam20b	3	11	10,39446269
Q8K4F6	Probable 28S rRNA (cytosine-C(5))-methyltransferase	Nsun5	3	8,6	10,38963134
P16330	2,3-Cyclic-nucleotide 3-phosphodiesterase	Cnp	3	12,1	10,38661698
Q6PHQ8	N-alpha-acetyltransferase 35, NatC auxiliary subunit	Naa35	3	3,3	10,34340782
Q60598	Src substrate cortactin	Cttn	3	9,9	10,3178648
Q9D0D4	Probable dimethyladenosine transferase	Dimt1	3	14,7	10,3089078
Q9DBJ1; O70250	Phosphoglycerate mutase 1	Pgam1	3	20,5	10,29404631
P48432; Q04892; Q811W0; P53784; P53783; Q05738	Transcription factor SOX-2	Sox2	3	13,5	10,28863541
Q9Z1R4	Uncharacterized protein C6orf47 homolog	D17h6s53e	3	12,6	10,19229281
Q9DBM1	G patch domain-containing protein 1	Gpatch1	3	5,7	10,1323712
E9PWG6		Ncapg	3	4,3	10,1048608
Q8BH24	Transmembrane 9 superfamily member 4	Tm9sf4	3	6,2	10,10079373

Q9CXI5	Mesencephalic astrocyte-derived neurotrophic factor	Manf	3	19	9,962809268
Q3U4G3	Xyloside xylosyltransferase 1	Xxylt1	3	7,9	9,961739073
Q921H8; Q8VCH0	3-Ketoacyl-CoA thiolase A, peroxisomal; 3-Ketoacyl-CoA thiolase B, peroxisomal	Acaa1a; Acaa1b	3	12,3	9,930486027
Q91XV3	Brain acid soluble protein 1	Basp1	3	25,7	9,724820777
Q69ZC8	GPALPP motifs-containing protein 1	Gpalpp1	3	11	9,721834024
Q9QYE6	Golgin subfamily A member 5	Golga5	3	6,4	9,717950543
Q9R0H0	Peroxisomal acyl-coenzyme A oxidase 1	Acox1	3	6,8	9,587852508
A2ASQ1	Agrin; Agrin N-terminal 110 kDa subunit; Agrin C-terminal 110 kDa subunit; Agrin C-terminal 90 kDa fragment; Agrin C-terminal 22 kDa fragment	Agrn	3	2,8	9,579202781
A2ACQ1		Dhx35	3	6,7	9,532044168
Q9DBR1	5-3 Exoribonuclease 2	Xrn2	3	4,2	9,439934746
Q7TNL5		Ppp2r5d	3	6,2	9,322491538
P58501	PAX3- and PAX7-binding protein 1	Paxbp1	3	3,9	9,25074845
Q921N6	Probable ATP-dependent RNA helicase DDX27	Ddx27	3	4,7	9,062909607
Q8VI33; Q6NZA9	Transcription initiation factor TFIID subunit 9	Taf9	3	21,2	8,748427688
P70372	ELAV-like protein 1	Elavl1	3	9,5	8,700023496
Q8BI72	CDKN2A-interacting protein	Cdkn2aip	3	9,1	8,584248491
P13439	Uridine 5-monophosphate synthase; Orotate phosphoribosyltransferase; Orotidine 5-phosphate decarboxylase	Umps	3	9,1	8,286557762
P46471	26S protease regulatory subunit 7	Psmc2	3	9,7	8,197216693
Q8VDF2; Q7TMI3	E3 ubiquitin-protein ligase UHRF1	Uhrf1	3	4,7	8,034578897
Q9EPE9	Manganese-transporting ATPase 13A1	Atp13a1	3	3,3	7,272583133
P99028	Cytochrome b-c1 complex subunit 6, mitochondrial	Uqcrh	3	39,3	3,034816542
Q91XL3	UDP-glucuronic acid decarboxylase 1	Uxs1	3	12,6	2,833976492
Q8R1I1	Cytochrome b-c1 complex subunit 9	Uqcr10	3	39,1	2,334574151

Q6Y7W8	PERQ amino acid-rich with GYF domain-containing protein 2	Gigyf2	3	3,1	2,252557603
O35887	Calumenin	Calu	3	12,7	2,140419788
Q6PGH1	Protein BUD31 homolog	Bud31	3	21,5	2,106633893
Q9ERY9	Probable ergosterol biosynthetic protein 28	ORF11	3	22,9	2,071570855
D3Z4I3; Q62176	RNA-binding protein 24; RNA-binding protein 38	Rbm24;Rbm 38	3	16,1	1,956632027
Q8C1Q6	Small integral membrane protein 4	Smim4	3	30	1,81465017
Q5XKN4	Protein jagunal homolog 1	Jagn1	3	13,7	1,765369515
Q8VCH6	Delta(24)-sterol reductase	Dhcr24	3	5,6	1,718954272
Q9D8M4	60S Ribosomal protein L7-like 1	Rpl7l1	3	15,9	1,587315747
Q91ZN5	Adenosine 3-phospho 5-phosphosulfate transporter 1	Slc35b2	3	8,1	1,494623142
Q9JKN5; Q6PFG8	Oligodendrocyte transcription factor 1	Olig1	2	13,1	1,48685709
O54825	Bystin	Bysl	3	6,7	1,466149169
Q4FK66	Pre-mRNA-splicing factor 38A	Prpf38a	3	11,5	1,188896617
Q99JI6; P62835	Ras-related protein Rap-1b; Ras-related protein Rap-1A	Rap1b;Rap1 a	3	17,9	1,110584115
Q66GT5	Phosphatidylglycerophosphatase and protein-tyrosine phosphatase 1	Ptpmt1	3	19,7	1,027166362
P10107	Annexin A1	Anxa1	3	4,9	1,024739451
A0A1W2P7S8; Q6A068;A0A1 W2P855;A0A1 W2P7Z8;A0A1 W2P7H4;A0A 1W2P6Q8	Cell division cycle 5-like protein	Cdc5l	3	5	1,012596516
Q8BGX2	Uncharacterized protein C19orf52 homolog		3	17,3	1,002431851
Q8K072	Receptor expression-enhancing protein 4	Reep4	2	3,1	12,50695216
Q6A028	Switch-associated protein 70	Swap70	2	1,7	11,30714387
Q9WUK2	Eukaryotic translation initiation factor 4H	Eif4h	2	12,9	11,29462075
Q9Z2N8	Actin-like protein 6A	Actl6a	2	10,3	11,20951429
Q8K363	ATP-dependent RNA helicase DDX18	Ddx18	2	3,5	11,1866714
D3Z3N4		Hnrnph3	2	8,4	11,15690471
Q3UN02	Lysocardiolipin acyltransferase 1	Lclat1	2	9	11,08494123

P01863; P01865; A0A0A6YY53; F6TQW2; P01864	Ig gamma-2A chain C region, A allele; Ig gamma-2A chain C region, membrane-bound form; Ig gamma-2A chain C region secreted form	Ighg;Igh-1a;Ighg2c	2	10	11,07434219
Q9R0N7	Synaptotagmin-7	Syt7	2	10,7	10,90425828
O09005	Sphingolipid delta(4)-desaturase DES1	Degs1	2	10,5	10,84729229
Q9JIX0	Transcription and mRNA export factor ENY2	Eny2	2	25,7	10,82472013
Q99PG2	Opioid growth factor receptor	Ogfr	2	4,3	10,68176549
Q60875	Rho guanine nucleotide exchange factor 2	Arhgef2	2	3,5	10,55478069
Q9CQF8	Ribosomal protein 63, mitochondrial	Mrpl57	2	13,7	10,52894242
Q9JJ61; Q8BVG5	Polypeptide N-acetylgalactosaminyltransferase 16; Polypeptide N-acetylgalactosaminyltransferase 14	Galnt16;Galnt14	2	5,4	10,50898318
P42925	Peroxisomal membrane protein 2	Pxmp2	2	11,3	10,42143371
Q8BK08	Transmembrane protein 11, mitochondrial	Tmem11	2	13,2	10,41500228
Q6TEK5	Vitamin K epoxide reductase complex subunit 1-like protein 1	Vkorc1l1	2	11,4	10,36763316
Q8R2L5	28S Ribosomal protein S18c, mitochondrial	Mrps18c	2	23,8	10,35060774
P62880	Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-2	Gnb2	2	28,5	10,33516701
Q9CX30	Protein YIF1B	Yif1b	2	10,9	10,3254179
Q9D880	Mitochondrial import inner membrane translocase subunit TIM50	Timm50	2	7,9	10,31015832
P21981	Protein-glutamine gamma-glutamyltransferase 2	Tgm2	2	4,5	10,28655776
Q8JZX4	Splicing factor 45	Rbm17	2	6,4	10,27961058
Q8VDL4	ADP-dependent glucokinase	Adpgk	2	6	10,2769386
Q9JHN8	Serine/threonine-protein kinase 19	Stk19	2	9,1	10,27286302
Q9Z2W1; Q99JT2; Q99KH8	Serine/threonine-protein kinase 25; Serine/threonine-protein kinase 26; Serine/threonine-protein kinase 24; Serine/threonine-protein kinase 24 35 kDa subunit; Serine/threonine-protein kinase 24 12 kDa subunit	Stk25; Stk26; Stk24	2	6,6	10,17130192

Q9JIH2	Nuclear pore complex protein Nup50	Nup50	2	6,9	10,11309098
O88271	Craniofacial development protein 1	Cfdp1	2	12,5	10,11113567
Q6ZQI3	Malectin	Mlec	2	8,6	10,07921809
P99027	60S Acidic ribosomal protein P2	Rplp2	2	42,6	10,02652344
P35601	Replication factor C subunit 1	Rfc1	2	2,8	10,00112667
O70579	Peroxisomal membrane protein PMP34	Slc25a17	2	7,5	9,999718196
Q6PGG6	Guanine nucleotide-binding protein-like 3-like protein	Gnl3l	2	5,5	9,9893945
Q9CR59	Growth arrest and DNA damage-inducible proteins-interacting protein 1	Gadd45gip1	2	9,9	9,981567282
Q9CRD2	ER membrane protein complex subunit 2	Emc2	2	8,4	9,980139578
Q3TKY6	Peptidyl-prolyl cis-trans isomerase CWC27 homolog	Cwc27	2	5,3	9,973697366
O35083	1-Acyl-sn-glycerol-3-phosphate acyltransferase alpha	Agpat1	2	15,4	9,954618004
Q8BFV2	PCI domain-containing protein 2	Pcid2	2	7	9,94966624
P61161	Actin-related protein 2	Actr2	2	6,6	9,9408568
Q8BSL7; P84078; P61205	ADP-ribosylation factor 2; ADP-ribosylation factor 1; ADP-ribosylation factor 3	Arf2;Arf1;Arf3	2	34,3	9,932657681
Q9WTQ8	Mitochondrial import inner membrane translocase subunit Tim23	Timm23	2	12,9	9,92982058
Q61166	Microtubule-associated protein RP/EB family member 1	Mapre1	2	14,2	9,891996295
Q8BHS6	Armadillo repeat-containing X-linked protein 3	Armcx3	2	7,4	9,87774425
Q9CWS0	N(G),N(G)-dimethylarginine dimethylaminohydrolase 1	Ddah1	2	12,6	9,873536393
Q922Q1	Mitochondrial amidoxime reducing component 2	02-Mar	2	7,4	9,868591088
Q9ET30	Transmembrane 9 superfamily member 3	Tm9sf3	2	3,6	9,863628773
Q8C4Q6	Axin interactor, dorsalization-associated protein	Aida	2	10,5	9,830340901
Q80YV2	Nuclear-interacting partner of ALK	Zc3hc1	2	6,4	9,822554898
Q6P1J0	Glycoprotein endo-alpha-1,2-mannosidase-like protein	Maneal	2	7,1	9,808545942

Q8C7X2	ER membrane protein complex subunit 1	Emc1	2	4,7	9,789908534
O08529	Calpain-2 catalytic subunit	Capn2	2	3,7	9,782965457
Q9CQZ6	NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3	Ndufb3	2	18,3	9,767605145
Q8CB44	GRAM domain-containing protein 4	Gramd4	2	5,5	9,705079392
P24270	Catalase	Cat	2	7,8	9,69115027
Q8K4R9	Disks large-associated protein 5	Dlgap5	2	2,2	9,68187088
Q91VT4	Carbonyl reductase family member 4	Cbr4	2	11	9,672036328
Q8CIL4	Uncharacterized protein C1orf131 homolog		2	8,9	9,659585674
Q8BXA5	Cleft lip and palate transmembrane protein 1-like protein	Clptm1l	2	6,3	9,654206378
Q99KV1	DnaJ homolog subfamily B member 11	Dnajb11	2	8,7	9,640118378
Q8K0T0	Reticulon-1	Rtn1	2	2,7	9,632468172
Q9CXG3	Peptidyl-prolyl cis-trans isomerase-like 4	Ppil4	2	7,7	9,616199614
Q9DCJ7	Aurora kinase A-interacting protein	Aurkaip1	2	7	9,5413677
Q922Q2	Serine/threonine-protein kinase RIO1	Riok1	2	4,8	9,531283978
O35493; P22518	Dual specificity protein kinase CLK4; Dual specificity protein kinase CLK1	Clk4;Clk1	2	6	9,44819892
Q9R099	Transducin beta-like protein 2	Tbl2	2	5,7	9,447971719
Q8VBT0	Thioredoxin-related transmembrane protein 1	Tmx1	2	9	9,445056243
Q80W03; Q66JW3; Q8BU11	TOX high mobility group box family member 3; Thymocyte selection-associated high mobility group box protein TOX; TOX high mobility group box family member 4	Tox3;Tox;Tox4	2	4,3	9,417029691
Q3UHX9	Putative methyltransferase C9orf114 homolog	D2Wsu81e	2	11,9	9,375669387
Q8BNI4	Derlin-2	Derl2	2	17,2	9,373604714
Q8VBZ3	Cleft lip and palate transmembrane protein 1 homolog	Clptm1	2	7,5	9,362382216
P70404	Isocitrate dehydrogenase [NAD] subunit gamma 1, mitochondrial	Idh3g	2	9,2	9,328450541
Q06185	ATP synthase subunit e, mitochondrial	Atp5i	2	32,4	9,279842694

P30658	Chromobox protein homolog 2	Cbx2	2	5,6	9,277682605
Q00PI9	Heterogeneous nuclear ribonucleoprotein U-like protein 2	Hnrnpul2	2	4,4	9,270902649
Q60864	Stress-induced-phosphoprotein 1	Stip1	2	7,6	9,23935985
Q8R3S6	Exocyst complex component 1	Exoc1	2	3	9,23570313
Q9CXW3	Calcyclin-binding protein	Cacybp	2	13,5	9,156866799
Q61595	Kinectin	Ktn1	2	2	9,14407187
Q9QUR6	Prolyl endopeptidase	Prep	2	4,2	9,124095457
Q922V4	Pleiotropic regulator 1	Plrg1	2	6,8	9,096135325
P29758	Ornithine aminotransferase, mitochondrial	Oat	2	6,6	9,094526396
Q8VE70	Programmed cell death protein 10	Pdcd10	2	10,8	9,08976825
P68404	Protein kinase C beta type	Prkcb	2	2,5	9,075211711
Q9WTR5	Cadherin-13	Cdh13	2	3,6	9,047069367
Q9QYB1	Chloride intracellular channel protein 4	Clic4	2	15,8	9,041823396
Q9CW46	Ribonucleoprotein PTB-binding 1	Raver1	2	4,4	9,024973407
P34022	Ran-specific GTPase-activating protein	Ranbp1	2	16,7	9,014159989
Q8BGQ7	Alanine--tRNA ligase, cytoplasmic	Aars	2	2,9	9,01150682
P62492; P46638	Ras-related protein Rab-11A; Ras-related protein Rab-11B	Rab11a; Rab11b	2	11,1	8,996925364
Q91VE0	Long-chain fatty acid transport protein 4	Slc27a4	2	5,1	8,976019878
Q5RJG1	Nucleolar protein 10	Nol10	2	3,2	8,958233692
E9QAP7; G5E8Z2	Transcription initiation factor TFIID subunit 4B	Taf4a; Taf4b	2	4,1	8,929110432
Q9R1B9	Slit homolog 2 protein; Slit homolog 2 protein N-product; Slit homolog 2 protein C-product	Slit2	2	1,5	8,916655776
Q99LR1	Monoacylglycerol lipase ABHD12	Abhd12	2	4,3	8,832795097
Q99JT5	Lysine-rich coiled-coil protein 1	Krcc1	2	10,5	8,814262009
Q8CG48	Structural maintenance of chromosomes protein 2	Smc2	2	2	8,810410969
Q9CRG1	Transmembrane 7 superfamily member 3	Tm7sf3	2	5	8,795877317
Q9JJK2	LanC-like protein 2	Lancl2	2	7,1	8,78260514
P27601	Guanine nucleotide-binding protein subunit alpha-13	Gna13	2	5,3	8,77603817
E9Q9Q2		R3hdm1	2	2,4	8,74929961
Q8K205		Pop1	2	2,8	8,73369328

Q3UGP8	Putative Dol-P-Glc:Glc(2)Man(9)GlcNAc(2)-PP-Dol alpha-1,2-glucosyltransferase	Alg10b	2	4,2	8,712423824
P61982	14-3-3 Protein gamma; 14-3-3 protein gamma, N-terminally processed	Ywhag	2	14,2	8,627606838
Q9CYN2	Signal peptidase complex subunit 2	Spcs2	2	13,3	8,601622241
Q91WQ5	TAF5-like RNA polymerase II p300/CBP-associated factor-associated factor 65 kDa subunit 5L	Taf5l	2	3,7	8,587815013
Q9ER73	Elongator complex protein 4	Elp4	2	6,6	8,514871825
Q6PDG5	SWI/SNF complex subunit SMARCC2	Smarcc2	2	3,7	8,502036164
P16546	Spectrin alpha chain, non-erythrocytic 1	Sptan1	2	1,3	8,492574264
Q8K2V6	Importin-11	Ipo11	2	2,4	8,485306061
Q8CCP0	Nuclear export mediator factor Nemf	Nemf	2	1,9	8,444932049
Q6P5B0	RRP12-like protein	Rrp12	2	1,9	8,426306693
Q9Z1M8	Protein Red	Ik	2	5,2	8,418611628
P09021	Homeobox protein Hox-A5	Hoxa5	2	13	8,396390716
P28352	DNA-(apurinic or apyrimidinic site) lyase; DNA-(apurinic or apyrimidinic site) lyase, mitochondrial	Apex1	2	10,7	8,340117144
Q921T2	Torsin-1A-interacting protein 1	Tor1aip1	2	5,4	8,147357583
P05201	Aspartate aminotransferase, cytoplasmic	Got1	2	9	8,1094128
Q9CQY6	Ubiquinol-cytochrome-c reductase complex assembly factor 2	Uqcc2	2	18,4	8,096240766
Q9CZX9	ER membrane protein complex subunit 4	Emc4	2	15,8	7,912769606
Q6ZQ11	Chondroitin sulfate synthase 1	Chsy1	2	4,6	7,654993973
Q9JHS4	ATP-dependent Clp protease ATP-binding subunit clpX-like, mitochondrial	Clpx	2	4,4	7,632413641
Q8R2K4	TAF6-like RNA polymerase II p300/CBP-associated factor-associated factor 65 kDa subunit 6L	Taf6l	2	3,2	7,447083226
O88738	Baculoviral IAP repeat-containing protein 6	Birc6	2	0,7	7,362206855
P26883	Peptidyl-prolyl cis-trans isomerase FKBP1A	Fkbp1a	2	25	7,275938239

Q7TMS5	ATP-binding cassette sub-family G member 2	Abcg2	2	3,3	7,231605208
Q9CQ92	Mitochondrial fission 1 protein	Fis1	2	15,8	7,111865964
J3QN89		Aamp	2	6	7,018144529
Q80YX1	Tenascin	Tnc	2	0,9	6,885330315
E9PY39; Q9D2M8; Q9CZY3	Ubiquitin-conjugating enzyme E2 variant 2; Ubiquitin-conjugating enzyme E2 variant 1	Gm20431;Ube2v2;Ube2v1	2	4,9	6,864557606
Q99MN1	Lysine--tRNA ligase	Kars	2	4,4	6,28771238
Q9Z1B3	1-Phosphatidylinositol 4,5-bisphosphate phosphodiesterase beta-1	Plcb1	2	2,1	6,159649367
P10711	Transcription elongation factor A protein 1	Tcea1	2	8,3	6,066369089
Q9ERA6	Tuftelin-interacting protein 11	Tfip11	2	2,5	2,228093832
Q9D8Y1	Transmembrane protein 126A	Tmem126a	2	10,7	1,729130444
Q91Z67	SLIT-ROBO Rho GTPase-activating protein 2	Srgap2	2	2,1	1,640905387
P32883; Q61411; P08556	GTPase KRas; GTPase KRas, N-terminally processed; GTPase HRas; GTPase HRas, N-terminally processed; GTPase NRas	Kras;Hras;Nras	2	14,3	1,618021121
Q9D958	Signal peptidase complex subunit 1	Spcs1	2	8,1	1,589935265
Q6NSU3	Glycosyltransferase 8 domain-containing protein 1	Glt8d1	2	10,5	1,545176719
Q05186	Reticulocalbin-1	Rcn1	2	9,8	1,377897302
D6RFQ2; Q9Z210	Peroxisomal membrane protein 11B	Pex11b	2	5,7	1,357120292
Q78ZA7	Nucleosome assembly protein 1-like 4	Nap1l4	2	12,3	1,279833488
Q8K003	Translation machinery-associated protein 7	Tma7	2	21,9	1,275175419
O09061	Proteasome subunit beta type-1	Psmb1	2	14,2	1,267559071
G5E870	E3 ubiquitin-protein ligase TRIP12	Trip12	2	1,1	1,183619729
Q9DCF9	Translocon-associated protein subunit gamma	Ssr3	2	9,7	1,141664419
Q9D2R8	28S Ribosomal protein S33, mitochondrial	Mrps33	2	19,8	1,123106684
Q9CPQ1	Cytochrome c oxidase subunit 6C	Cox6c	2	26,3	1,121314918
Q8QZR8	Cyclin-related protein FAM58B	Fam58b	2	9,6	1,057076052
Q9CQ60	6-Phosphogluconolactonase	Pgls	2	11,7	1,021826876

Q78TU8		Fam107a	1	6,2	12,27125875
P01872	Ig mu chain C region	Ighm	1	2,2	11,64218711
Q9ES97	Reticulon-3	Rtn3	1	1,1	11,07547915
Q91VS7	Microsomal glutathione S-transferase 1	Mgst1	1	10,3	10,74011804
Q5RL79	Keratinocyte-associated protein 2	Krtcap2	1	12,5	10,63608079
Q9Z0S9	Prenylated Rab acceptor protein 1	Rabac1	1	7,6	10,52816105
Q3KNM2	E3 ubiquitin-protein ligase MARCH5	05-Mar	1	5,8	10,45296189
P61804	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit DAD1	Dad1	1	10,6	10,32305476
P31648	Sodium- and chloride-dependent GABA transporter 1	Slc6a1	1	3,5	10,30571978
P70202	Latexin	Lxn	1	8,1	10,23038076
P62996	Transformer-2 protein homolog beta	Tra2b	1	3,5	10,20518233
Q9ESK9	RB1-inducible coiled-coil protein 1	Rb1cc1	1	0,7	10,17180229
Q9DBZ5	Eukaryotic translation initiation factor 3 subunit K	Eif3k	1	6,4	10,0558247
P01867	Ig Gamma-2B chain C region	Igh-3	1	4	10,05080096
Q9ERN0	Secretory carrier-associated membrane protein 2	Scamp2	1	3,6	9,899477772
Q9NWG9	Melanoma-associated antigen H1	Mageh1	1	9,2	9,896559463
Q3UHX2	28-kDa Heat- and acid-stable phosphoprotein	Pdap1	1	7,2	9,800721978
Q9R0M8	UDP-galactose translocator	Slc35a2	1	2,8	9,738700293
P97384	Annexin A11	Anxa11	1	1,8	9,718001935
Q8R404	Protein QIL1	Qil1	1	5,9	9,679198571
Q791V5	Mitochondrial carrier homolog 2	Mtch2	1	3	9,667608326
Q9CQA6	Coiled-coil-helix-coiled-coil-helix domain-containing protein 1	Chchd1	1	9,3	9,629775524
P61211	ADP-ribosylation factor-like protein 1	Arl1	1	6,1	9,502632935
P49586; Q811Q9	Choline-phosphate cytidylyltransferase A; Choline-phosphate cytidylyltransferase B	Pcyt1a;Pcyt1b	1	3,3	9,49026927
P70699	Lysosomal alpha-glucosidase	Gaa	1	2,4	9,48058827
Q8K1A5	Transmembrane protein 41B	Tmem41b	1	6,2	9,448013031
Q8CGI1	Protein FAM193A	Fam193a	1	1	9,447041888
P27612	Phospholipase A-2-activating protein	Plaa	1	3	9,43812648
Q9ES89	Exostosin-like 2	Extl2	1	3,3	9,399213827

P70202	Latexin	Lxn	1	8,1	10,23038076
P62996	Transformer-2 protein homolog beta	Tra2b	1	3,5	10,20518233
Q9ESK9	RB1-inducible coiled-coil protein 1	Rb1cc1	1	0,7	10,17180229
Q9DBZ5	Eukaryotic translation initiation factor 3 subunit K	Eif3k	1	6,4	10,0558247
P01867	Ig Gamma-2B chain C region	Igh-3	1	4	10,05080096
Q9ERN0	Secretory carrier-associated membrane protein 2	Scamp2	1	3,6	9,899477772
Q9NWG9	Melanoma-associated antigen H1	Mageh1	1	9,2	9,896559463
Q3UHX2	28-kDa Heat- and acid-stable phosphoprotein	Pdap1	1	7,2	9,800721978
Q9R0M8	UDP-galactose translocator	Slc35a2	1	2,8	9,738700293
P97384	Annexin A11	Anxa11	1	1,8	9,718001935
Q8R404	Protein QIL1	Qil1	1	5,9	9,679198571
Q791V5	Mitochondrial carrier homolog 2	Mtch2	1	3	9,667608326
Q9CQA6	Coiled-coil-helix-coiled-coil-helix domain-containing protein 1	Chchd1	1	9,3	9,629775524
P61211	ADP-ribosylation factor-like protein 1	Arl1	1	6,1	9,502632935
P49586; Q811Q9	Choline-phosphate cytidylyltransferase A; Choline-phosphate cytidylyltransferase B	Pcyt1a;Pcyt 1b	1	3,3	9,49026927
P70699	Lysosomal alpha-glucosidase	Gaa	1	2,4	9,48058827
Q8K1A5	Transmembrane protein 41B	Tmem41b	1	6,2	9,448013031
Q8CGI1	Protein FAM193A	Fam193a	1	1	9,447041888
P27612	Phospholipase A-2-activating protein	Plaa	1	3	9,43812648
Q9ES89	Exostosin-like 2	Extl2	1	3,3	9,399213827
Q61387	Cytochrome c oxidase subunit 7A-related protein, mitochondrial	Cox7a2l	1	28,8	9,398145117
Q99JT6	Calfacilitin	Tlcd1	1	3,6	9,366562643
Q8CJG1	Protein argonaute-1	Ago1	1	1,4	9,33621643
Q9JLV2	Short transient receptor potential channel 4-associated protein	Trpc4ap	1	4	9,332551305
Q9CQ90	Uncharacterized protein C9orf85 homolog		1	16,8	9,30058136
P16332	Methylmalonyl-CoA mutase, mitochondrial	Mut	1	2,4	9,285956995
P47802	Metaxin-1	Mtx1	1	5	9,277752336
Q9DC29	ATP-binding cassette sub-family B member 6, mitochondrial	Abcb6	1	2,6	9,249990421

Q9Z2A7	Diacylglycerol O-acyltransferase 1	Dgat1	1	8,4	9,230692976
Q6URW6	Myosin-14	Myh14	1	1,9	9,206208529
Q91VP7	Transmembrane protein 101	Tmem101	1	3,5	9,200015803
Q8R1Z9	RING finger protein 121	Rnf121	1	4	9,158761144
P60003	Transcription elongation factor 1 homolog	Elof1	1	21,7	9,157094252
Q8JZS9	39S Ribosomal protein L48, mitochondrial	Mrpl48	1	5,2	9,144556282
Q99ME2	WD repeat-containing protein 6	Wdr6	1	3,2	9,097874115
Q9D0W5	Peptidyl-prolyl cis-trans isomerase-like 1	Ppil1	1	10,2	9,095871689
P46061	Ran GTPase-activating protein 1	Rangap1	1	2	9,063206305
A2BH40	AT-rich interactive domain-containing protein 1A	Arid1a	1	0,9	9,030004945
Q9JKN1	Zinc transporter 7	Slc30a7	1	2,6	8,964514154
Q9EP78	Carbohydrate sulfotransferase 7	Chst7	1	2,7	8,961102364
Q9JKD3	Secretory carrier-associated membrane protein 5	Scamp5	1	3,8	8,95991502
O70274; Q63739	Protein tyrosine phosphatase type IVA 2; Protein tyrosine phosphatase type IVA 1	Ptp4a2;Ptp4a1	1	8,4	8,959393438
Q8CB77	Transcription elongation factor B polypeptide 3	Tceb3	1	1,9	8,943393929
Q2PMX6		Dmrtc1b	1	4,5	8,934929248
Q9JLJ5	Elongation of very long chain fatty acids protein 1	Elovl1	1	4,3	8,922970853
Q9CQD1	Ras-related protein Rab-5A	Rab5a	1	15,3	8,913308315
Q91YW3	DnaJ homolog subfamily C member 3	Dnajc3	1	3,4	8,912021063
Q8JZM0	Dimethyladenosine transferase 1, mitochondrial	Tfb1m	1	4,3	8,909923077
Q9DAJ4	WD repeat domain-containing protein 83	Wdr83	1	5,4	8,907852072
P55821	Stathmin-2	Stmn2	1	5,6	8,888621497
Q99J09	Methylosome protein 50	Wdr77	1	5	8,886946371
Q01279	Epidermal growth factor receptor	Egfr	1	1,6	8,886245286
P05977; P09542	Myosin light chain 1/3, skeletal muscle isoform; Myosin light chain 3	Myl1;Myl3	1	8,5	8,878112237
O08912	Polypeptide N-acetylgalactosaminyltransferase 1;	Galnt1	1	4,7	8,871165994

	Polypeptide N-acetylgalactosaminyltransferase 1 soluble form				
Q3V1T4	Prolyl 3-hydroxylase 1	Lepre1	1	1,6	8,819604323
Q8BGT7	Survival of motor neuron-related-splicing factor 30	Smndc1	1	8,8	8,812786992
P61924	Coatomer subunit zeta-1	Copz1	1	13	8,809092838
Q9QYI6	DnaJ homolog subfamily B member 9	Dnajb9	1	5,4	8,807419327
Q8BLK3	Limbic system-associated membrane protein	Lsamp	1	3,2	8,806517401
Q8BG51	Mitochondrial Rho GTPase 1	Rhot1	1	2,4	8,787478175
Q64310	Surfeit locus protein 4	Surf4	1	4,8	8,781162969
Q8CEE7	Retinol dehydrogenase 13	Rdh13	1	5,1	8,770531757
P28474	Alcohol dehydrogenase class-3	Adh5	1	4,5	8,765833067
Q8CHP5	Partner of Y14 and mago	Wibg	1	7,9	8,7601544
Q8VIK2	Mpv17-like protein 2	Mpv17l2	1	6,5	8,756589679
P59325	Eukaryotic translation initiation factor 5	Eif5	1	2,3	8,756189348
Q9DCI3	MLN64 N-terminal domain homolog	Stard3nl	1	4,3	8,750974902
Q8BGQ1	Spermatogenesis-defective protein 39 homolog	Vipas39	1	3,9	8,74819285
Q80Y32		Hmgxb4	1	2,9	8,737382563
Q8BX10	Serine/threonine-protein phosphatase PGAM5, mitochondrial	Pgam5	1	3,5	8,717573615
Q6PGB8	Probable global transcription activator SNF2L1	Smarca1	1	1,3	8,701445093
P17427; P17426	AP-2 complex subunit alpha-2; AP-2 complex subunit alpha-1	Ap2a2;Ap2a1	1	1	8,651733401
P70671	Interferon regulatory factor 3	Irf3	1	4,8	8,65047737
O35623	BET1 homolog	Bet1	1	9,3	8,650118303
Q6ZQ29	Serine/threonine-protein kinase TAO2	Taok2	1	2,3	8,64731451
P08551	Neurofilament light polypeptide	Nefl	1	5	8,627716262
Q9CQW7	Apoptogenic protein 1, mitochondrial	Apopt1	1	9,4	8,616953109
P03899	NADH-ubiquinone oxidoreductase chain 3	Mtnd3	1	13	8,610323573
O70310	Glycylpeptide N-tetradecanoyltransferase 1	Nmt1	1	2,6	8,6043679
Q06831	Transcription factor SOX-4	Sox4	1	5,9	8,600804955

Q9D1Q4	Dolichol-phosphate mannosyltransferase subunit 3	Dpm3	1	10,9	8,599950025
D3YZZ5		Tmed7	1	4,5	8,585713709
Q6P5F7	Protein tweety homolog 3	Ttyh3	1	2,7	8,578863256
P84096	Rho-related GTP-binding protein RhoG	Rhog	1	9,9	8,557119022
Q3TBW2	39S ribosomal protein L10, mitochondrial	Mrpl10	1	5,7	8,539507808
Q80U78	Pumilio homolog 1	Pum1	1	1,7	8,531420452
Q8K0D7	Tail-anchored protein insertion receptor WRB	Wrb	1	6,9	8,523757961
Q8BUN5; Q9JIW5; Q62432	Mothers against decapentaplegic homolog 3; Mothers against decapentaplegic homolog 9; Mothers against decapentaplegic homolog 2	Smad3;Smad9;Smad2	1	3,1	8,518771163
P50247	Adenosylhomocysteinase	Ahcy	1	2,5	8,517826836
Q149F3; Q8R050	Eukaryotic peptide chain release factor GTP-binding subunit ERF3B; Eukaryotic peptide chain release factor GTP-binding subunit ERF3A	Gspt2;Gspt1	1	2,8	8,516921276
P84102; O88892	Small EDRK-rich factor 2; Small EDRK-rich factor 1	Serf2;Serf1	1	13,6	8,503189699
Q9CZX5	PIN2/TERF1-interacting telomerase inhibitor 1	Pinx1	1	5,7	8,502792032
Q8BHN0	Protein phosphatase 1L	Ppm1l	1	3,6	8,499845887
Q99P72	Reticulon-4	Rtn4	1	2,7	8,49589499
Q9D8B4	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11	Ndufa11	1	16,3	8,483291798
Q8BTV2	Cleavage and polyadenylation specificity factor subunit 7	Cpsf7	1	2,5	8,48143619
Q8BPE4	Transmembrane protein 177	Tmem177	1	3,2	8,420802382
Q8BKE6	Cytochrome P450 20A1	Cyp20a1	1	3,9	8,384136172
A2AM29	Protein AF-9	Mllt3	1	2,6	8,38383387
P03975	IgE-binding protein	Iap	1	2	8,380201292
Q9D855	Cytochrome b-c1 complex subunit 7	Uqcrb	1	13,5	8,37716714
A6X919	Probable C-mannosyltransferase DPY19L1	Dpy19l1	1	1,9	8,365403843
Q9DCR2	AP-3 complex subunit sigma-1	Ap3s1	1	7,8	8,365141344
P59108	Copine-2	Cpne2	1	2,9	8,353455626
Q64674	Spermidine synthase	Srm	1	3,3	8,34638076
Q9CQ89	Protein CutA	Cuta	1	7,9	8,345760055

P47754	F-Actin-capping protein subunit alpha-2	Capza2	1	6,3	8,331767907
O08848	60 kDa SS-A/Ro ribonucleoprotein	Trove2	1	2	8,319717275
Q61699	Heat shock protein 105 kDa	Hsph1	1	1,5	8,317367388
Q3UKJ7	WD40 repeat-containing protein SMU1; WD40 repeat-containing protein SMU1, N-terminally processed	Smu1	1	2,5	8,305240966
Q9WTL7	Acyl-protein thioesterase 2	Lypla2	1	7,8	8,302501844
Q9D1C9	Ribosomal RNA-processing protein 7 homolog A	Rrp7a	1	6,4	8,292505697
O70378	ER membrane protein complex subunit 8	Emc8	1	7,7	8,289926659
Q80XI3	Eukaryotic translation initiation factor 4 gamma 3	Eif4g3	1	0,8	8,288773813
Q62311	Transcription initiation factor TFIID subunit 6	Taf6	1	1,8	8,259790333
Q99KU0	Vacuole membrane protein 1	Vmp1	1	7,4	8,233188242
P52503	NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial	Ndufs6	1	8,6	8,220088066
F8VQH7		Dbx2	1	4	8,209014642
Q9R1P3	Proteasome subunit beta type-2	Psmb2	1	5,5	8,202858456
P83870	PHD finger-like domain-containing protein 5A	Phf5a	1	11,8	8,198886991
Q9EQI8	39S ribosomal protein L46, mitochondrial	Mrpl46	1	4,9	8,185420589
Q9R0U0	Serine/arginine-rich splicing factor 10	Srsf10	1	6,1	8,166263528
Q9JMB0	G kinase-anchoring protein 1	Gkap1	1	3	8,150407357
Q8BRF7	Sec1 family domain-containing protein 1	Scfd1	1	3	8,148425737
Q9DC53	Copine-8	Cpne8	1	3,3	8,146594131
Q9JHR7	Insulin-degrading enzyme	Ide	1	1,2	8,146594131
Q9CR20	Immediate early response 3-interacting protein 1	Ier3ip1	1	24,4	8,12902537
P62814	V-Type proton ATPase subunit B, brain isoform	Atp6v1b2	1	2,9	8,126601235
D3YUM8; Q9R1P1	Proteasome subunit beta type; Proteasome subunit beta type-3	Gm4950;Psmb3	1	7,8	8,12531014
O70333	Cysteine-rich PDZ-binding protein	Cript	1	16,8	8,121481714
Q8BXZ1	Protein disulfide-isomerase TMX3	Tmx3	1	2,4	8,109360559

O35857	Mitochondrial import inner membrane translocase subunit TIM44	Timm44	1	3,1	8,081350281
O88456	Calpain small subunit 1	Capns1	1	5,6	8,055716264
A0A0A6YVU; Q9JKV1	Proteasomal ubiquitin receptor ADRM1	Gm9774;Adrm1	1	3,9	8,051807107
Q9ER67		Maged2	1	2,1	8,049685216
O35387	HCLS1-associated protein X-1	Hax1	1	5	8,042863176
Q8K1C0	Protein angel homolog 2	Angel2	1	3,3	8,035238993
Q8C156	Condensin complex subunit 2	Ncaph	1	1,4	8,035018995
P32921	Tryptophan-tRNA ligase, cytoplasmic; T1-TrpRS; T2-TrpRS	Wars	1	3,3	8,024751838
O55137	Acyl-coenzyme A thioesterase 1	Acot1	1	4,3	7,998421189
P97742	Carnitine O-palmitoyltransferase 1, liver isoform	Cpt1a	1	1,8	7,995936704
Q8CES0	N-Alpha-acetyltransferase 30	Naa30	1	4,1	7,99004722
Q8BFQ6	Disrupted in renal carcinoma protein 2 homolog	Dirc2	1	3,1	7,969300173
B2RQG2		Phf3	1	0,6	7,95011843
Q9D6J6	NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial	Ndufv2	1	4	7,923862268
Q8BMJ2	Leucine--tRNA ligase, cytoplasmic	Lars	1	2,2	7,922138369
Q9D1E8	1-Acyl-sn-glycerol-3-phosphate acyltransferase epsilon	Agpat5	1	5,8	7,921543444
Q9D115	Zinc-finger protein 706	Znf706	1	14,5	7,915819639
Q8C1D8	Protein IWS1 homolog	Iws1	1	1,6	7,906890596
P0C0A3	Charged multivesicular body protein 6	Chmp6	1	6,5	7,899356923
Q7TT37	Elongator complex protein 1	Ikbkap	1	0,9	7,883681905
Q99J47	Dehydrogenase/reductase SDR family member 7B	Dhrs7b	1	2,8	7,872951851
Q9EQM6	Microprocessor complex subunit DGCR8	Dgcr8	1	1,6	7,868822555
Q8C0I1	Alkyldihydroxyacetonephosphate synthase, peroxisomal	Agps	1	3,1	7,855927425
Q8R0F5	RNA-binding motif protein, X-linked 2	Rbmx2	1	4	7,852997588
Q61979	Neuronatin	Nnat	1	12,3	7,838699702
Q99NH2	Partitioning defective 3 homolog	Pard3	1	1,6	7,823239844
Q5SSI6	U3 small nucleolar RNA-associated protein 18 homolog	Utp18	1	2,2	7,814294058

Q61187	Tumor susceptibility gene 101 protein	Tsg101	1	3,1	7,80928581
Q9D8V7	Signal peptidase complex catalytic subunit SEC11C	Sec11c	1	10,4	7,806195147
Q9Z0J0	Epididymal secretory protein E1	Npc2	1	10,7	7,800835204
Q8BXJ9	Transmembrane protein 62	Tmem62	1	3,1	7,781753122
Q99L43	Phosphatidate cytidylyltransferase 2	Cds2	1	3,8	7,778011402
Q6ZPR5	Sphingomyelin phosphodiesterase 4	Smpd4	1	1,8	7,741871424
Q9D8U2	Transmembrane protein 41A	Tmem41a	1	4,5	7,717882018
Q3UQ44	Ras GTPase-activating-like protein IQGAP2	Iqgap2	1	0,6	7,711701384
Q7TMF3	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12	Ndufa12	1	8,3	7,699329526
Q99K43	Protein regulator of cytokinesis 1	Prc1	1	1,7	7,681660088
D3Z0K6		Rsbn1l	1	1,8	7,648824922
Q9D0R2	Threonine-tRNA ligase, cytoplasmic	Tars	1	1,4	7,623735202
Q9Z2I8	Succinyl-CoA ligase [GDP-forming] subunit beta, mitochondrial	Suclg2	1	5,8	7,617283788
P30416	Peptidyl-prolyl cis-trans isomerase FKBP4; Peptidyl-prolyl cis-trans isomerase FKBP4, N-terminally processed	Fkbp4	1	2	7,596711567
Q8K354	Carbonyl reductase [NADPH] 3	Cbr3	1	4	7,576673293
A2AAY5	SH3 and PX domain-containing protein 2B	Sh3pxd2b	1	2,1	7,574858391
Q9JM76	Actin-related protein 2/3 complex subunit 3	Arpc3	1	6,2	7,564606811
Q9EP72	ER membrane protein complex subunit 7	Emc7	1	10,4	7,525129251
P28571	Sodium- and chloride-dependent glycine transporter 1	Slc6a9	1	1,4	7,489687429
Q8VC48	Peroxisome assembly protein 12	Pex12	1	7	7,487277313
Q9JL26	Formin-like protein 1	Fmnl1	1	2,7	7,484540972
P70257	Nuclear factor 1 X-type	Nfix	1	10	7,481718719
Q8BZQ7	Anaphase-promoting complex subunit 2	Anapc2	1	1,1	7,463033855
Q505F5	Leucine-rich repeat-containing protein 47	Lrrc47	1	3,1	7,462297766
Q6ZQ73	Cullin-associated NEDD8-dissociated protein 2	Cand2	1	1,9	7,444517993
B9EJ86	Oxysterol-binding protein	Osbpl8	1	1,2	7,433543714

Q3U186	Probable arginine-tRNA ligase, mitochondrial	Rars2	1	2,1	7,406077422
Q9JKK7	Tropomodulin-2	Tmod2	1	4	7,378771701
Q9D8B3	Charged multivesicular body protein 4b	Chmp4b	1	6,2	7,369902646
P58854	Gamma-tubulin complex component 3	Tubgcp3	1	1,5	7,34029521
Q8K0H5	Transcription initiation factor TFIID subunit 10	Taf10	1	11,5	7,296182058
Q9JME5	AP-3 complex subunit beta-2	Ap3b2	1	3,5	7,270435501
Q01405	Protein transport protein Sec23A	Sec23a	1	1,7	7,264911693
Q80VE5		Tbc1d22b	1	2,6	7,24431626
Q8R0G9	Nuclear pore complex protein Nup133	Nup133	1	1,8	7,204179852
Q99LS0	Augurin	Ecrg4	1	7,4	7,188836073
Q8BMQ2	General transcription factor 3C polypeptide 4	Gtf3c4	1	3,5	7,184181096
Q8BUV8	Protein GPR107	Gpr107	1	2	7,14689956
P80205	Homeobox protein OTX1	Otx1	1	3,4	7,136068312
Q99JH8	ER lumen protein-retaining receptor 1	Kdelr1	1	9	7,096240766
P97858	Solute carrier family 35 member B1	Slc35b1	1	3,1	7,085339669
Q9QYC0	Alpha-adducin	Add1	1	2,4	7,085020924
Q99KI3	ER membrane protein complex subunit 3	Emc3	1	6,5	7,06371864
Q9QXK3	Coatomer subunit gamma-2	Copg2	1	3,3	7,062639828
Q9JM99	Proteoglycan 4; Proteoglycan 4 C-terminal part	Prg4	1	1,6	7,001464494
Q9Z0E0	Neurochondrin	Ncdn	1	2,1	6,988457473
Q02111	Protein kinase C theta type	Prkcq	1	1,1	6,984475425
Q3UU43		Chpf2	1	2,5	6,970738639
P36916	Guanine nucleotide-binding protein-like 1	Gnl1	1	2	6,955708021
Q80UU9	Membrane-associated progesterone receptor component 2	Pgrmc2	1	11,5	6,947432389
Q7M6Y3; Q61548	Phosphatidylinositol-binding clathrin assembly protein; Clathrin coat assembly protein AP180	Picalm;Snap91	1	1,8	6,928133408
Q99J27	Acetyl-coenzyme A transporter 1	Slc33a1	1	2	6,895302621
Q6PD26	GPI transamidase component PIG-S	Pigs	1	3,8	6,87282876

Q8BH73	Glutaminyl-peptide cyclotransferase-like protein	Qpctl	1	3,7	6,869254527
Q61001	Laminin subunit alpha-5	Lama5	1	0,3	6,837312556
Q8BH64	EH domain-containing protein 2	Ehd2	1	4,6	6,822220272
Q8CI94	Glycogen phosphorylase, brain form	Pygb	1	1,4	6,761817143
Q8BQM4	HEAT repeat-containing protein 3	Heatr3	1	1,6	6,708325207
P28184	Metallothionein-3	Mt3	1	17,6	6,656782364
P17710	Hexokinase-1	Hk1	1	1,5	6,601221086
P70195	Proteasome subunit beta type-7	Psmb7	1	6,9	6,569293607
Q924C1	Exportin-5	Xpo5	1	0,8	6,491211756
Q9D0F9	Phosphoglucomutase-1	Pgm1	1	3,2	6,409577626
Q8BIX3	ARL14 effector protein	Arl14ep	1	5,8	6,235363277
P58742	Aladin	Aaas	1	2,9	6,208029464
Q80TL7	Protein MON2 homolog	Mon2	1	0,6	5,936567275
Q8BS95	Golgi pH regulator	Gpr89a	1	5,9	5,694768783
Q8JZM7	Parafibromin	Cdc73	1	3,8	5,658240051
Q9CQN6	Transmembrane protein 14C	Tmem14c	1	25,4	5,585413272
Q9JI33	Netrin-4	Ntn4	1	3	4,032139453
P0DN91; P0DN90; P0DN89			1	8,9	2,624162979
P18828	Syndecan-1	Sdc1	1	6,4	1,877080242
P62748	Hippocalcin-like protein 1	Hpcal1	1	14,5	1,869411629
Q9CRC0	Vitamin K epoxide reductase complex subunit 1	Vkorc1	1	8,1	1,632703995
Q9CQC9; P36536	GTP-binding protein SAR1b;GTP-binding protein SAR1a	Sar1b;Sar1a	1	5,6	1,514517971
Q8BHL7	CDC42 small effector protein 1	Cdc42se1	1	15	1,297153202
A0A1Y7VKT9; Q9EPV8	Ubiquitin-like protein 5	Ubl5	1	12,3	1,160664742
Q6ZWY3	40S Ribosomal protein S27-like	Rps27l	1	23,8	1,144222615
P68134; P68033; P63268; P62737	Actin, alpha skeletal muscle; Actin, alpha cardiac muscle 1; Actin, gamma-enteric smooth muscle; Actin, aortic smooth muscle	Acta1;Actc1; Actg2;Acta2	1	33,2	1,10318585
P35762	CD81 antigen	Cd81	1	9,7	1,0330895
Q3UV17	Keratin, type II cytoskeletal 2 oral	Krt76	1	12,1	1,013131994
F6ZDS4	Nucleoprotein TPR	Tpr	248	69,6	10,55681407
Q62167;P16381	ATP-dependent RNA helicase DDX3X; Putative ATP-dependent RNA helicase Pl10	Ddx3x;D1Pas1	13	60,1	1,010507342

O35691	Pinin	Pnn	21	28,6	2,407936207
P07356	Annexin A2	Anxa2	17	46,3	1,007189389
P63276	40S Ribosomal protein S17	Rps17	16	74,8	1,045357657
Q9WTS2	Alpha-(1,6)-fucosyltransferase	Fut8	11	24,2	1,165357074
Q920E5; A0A0G2JEA5	Farnesyl pyrophosphate synthase	Fdps	10	33,7	1,492091583
P62301	40S Ribosomal protein S13	Rps13	10	52,3	1,014573556
P61514	60S Ribosomal protein L37a	Rpl37a	7	59,8	1,615189326
Q99K85	Phosphoserine aminotransferase	Psat1	6	16,8	12,80598564
Q9CR67	Transmembrane protein 33	Tmem33	6	24,7	2,915590831
Q91V41	Ras-related protein Rab-14	Rab14	6	30,7	2,355994031
Q6ZWV7	60S ribosomal protein L35	Rpl35	6	39	1,114525816
Q9CZB0	Succinate dehydrogenase cytochrome b560 subunit, mitochondrial	Sdhc	5	29,6	11,64849241
P70333	Heterogeneous nuclear ribonucleoprotein H2	Hnrnph2	5	37,2	1,418037426
Q8JZU2	Tricarboxylate transport protein, mitochondrial	Slc25a1	5	17	1,004529846
Q61881	DNA replication licensing factor MCM7	Mcm7	4	8,1	10,12760749
Q91V04	Translocating chain-associated membrane protein 1	Tram1	3	10,2	10,60186362
P51807	Dynein light chain Tctex-type 1	Dynlt1	3	38,9	9,905808168
Q78IK2	Up-regulated during skeletal muscle growth protein 5	Usmg5	2	27,6	9,655423389
P52875	Transmembrane protein 165	Tmem165	2	8,7	8,801805344
Q8BY71	Histone acetyltransferase type B catalytic subunit	Hat1	2	6	8,724002168
Q62095;Q61496	ATP-dependent RNA helicase DDX3Y	Ddx3y	2	35,9	1,356013408
Q9CQX2	Cytochrome b5 type B	Cyb5b	1	23,3	10,77313921
Q9R0P4	Small acidic protein	Smap	1	12,7	10,16628864
Q9R0Q9	Mannose-P-dolichol utilization defect 1 protein	Mpdu1	1	3,6	10,11517373
Q78XF5	Oligosaccharyltransferase complex subunit OSTC	Ostc	1	8,1	9,336394978
Q99JX4	Eukaryotic translation initiation factor 3 subunit M	Eif3m	1	5,9	8,605775805
Q7TN29	Stromal membrane-associated protein 2	Smap2	1	3	8,33998358

Q3TDN2	FAS-associated factor 2	Faf2	1	4	8,298429211
P62821	Ras-related protein Rab-1A	Rab1A	1	13,7	6,99004722
Q62446	Peptidyl-prolyl cis-trans isomerase FKBP3	Fkbp3	1	6,7	1,331696045
Q9CRA4	Methylsterol monooxygenase 1	Msmo1	1	3,8	1,012938432
Q91V41	Ras-related protein Rab-14	Rab14	6	30,7	2,355994031
Q6ZWV7	60S Ribosomal protein L35	Rpl35	6	39	1,114525816
Q9CZB0	Succinate dehydrogenase cytochrome b560 subunit, mitochondrial	Sdhc	5	29,6	11,64849241
P70333	Heterogeneous nuclear ribonucleoprotein H2	Hnrnph2	5	37,2	1,418037426
Q8JZU2	Tricarboxylate transport protein, mitochondrial	Slc25a1	5	17	1,004529846
Q61881	DNA replication licensing factor MCM7	Mcm7	4	8,1	10,12760749
Q91V04	Translocating chain-associated membrane protein 1	Tram1	3	10,2	10,60186362
P51807	Dynein light chain Tctex-type 1	Dynlt1	3	38,9	9,905808168
Q78IK2	Up-regulated during skeletal muscle growth protein 5	Usmg5	2	27,6	9,655423389
P52875	Transmembrane protein 165	Tmem165	2	8,7	8,801805344
Q8BY71	Histone acetyltransferase type B catalytic subunit	Hat1	2	6	8,724002168
Q62095;Q61496	ATP-dependent RNA helicase DDX3Y	Ddx3y	2	35,9	1,356013408
Q9CQX2	Cytochrome b5 type B	Cyb5b	1	23,3	10,77313921
Q9R0P4	Small acidic protein	Smap	1	12,7	10,16628864
Q9R0Q9	Mannose-P-dolichol utilization defect 1 protein	Mpdu1	1	3,6	10,11517373
Q78XF5	Oligosaccharyltransferase complex subunit OSTC	Ostc	1	8,1	9,336394978
Q99JX4	Eukaryotic translation initiation factor 3 subunit M	Eif3m	1	5,9	8,605775805
Q7TN29	Stromal membrane-associated protein 2	Smap2	1	3	8,33998358
Q3TDN2	FAS-associated factor 2	Faf2	1	4	8,298429211
P62821	Ras-related protein Rab-1A	Rab1A	1	13,7	6,99004722
Q62446	Peptidyl-prolyl cis-trans isomerase FKBP3	Fkbp3	1	6,7	1,331696045
Q9CRA4	Methylsterol monooxygenase 1	Msmo1	1	3,8	1,012938432

S2.2 Supplemental Table S2: P-Tpr interacting proteins of WT adult NSPCs.

Supplemental Table S2: Table showing 119 P-Tpr interacting proteins of WT adult NSPCs with a Log2 FC > 1.0.

Protein IDs	Protein names	Gene names	Unique peptides	Sequence coverage [%]	Log2 fold change (FC) of LFQ intensity (a-TPR/IgG)
A0A140T8N2; P01642	Ig Kappa chain V-V region L7	Gm10881	1	10,4	4,498780686
D3YZP9	Coiled-coil domain-containing protein 6	Ccdc6	4	12,6	1,295773258
O09167	60S Ribosomal protein L21	Rpl21	3	20,6	1,324105654
O35963	Ras-related protein Rab-33B	Rab33b	2	7,9	2,211431665
O55135	Eukaryotic translation initiation factor 6	Eif6	6	33,1	1,089663906
O70589	Peripheral plasma membrane protein CASK	Cask	2	2,1	1,361306321
P05213;P68368;A0A2R8VHF3	Tubulin alpha-1B chain; Tubulin alpha-4A chain	Tuba1b;Tuba4a	2	80,3	1,499615767
P10126;P62631	Elongation factor 1-alpha 1	Eef1a1	29	67,5	1,224408258
P11440;Q14AX6;Q69ZA1;Q04735;Q8K0D0;Q04899;O35495;P97377;Q99J95;Q3V3A1;Q80YP0;Q64261	Cyclin-dependent kinase 1	Cdk1	4	16,8	1,137745124
P13707	Glycerol-3-phosphate dehydrogenase [NAD(+)], cytoplasmic	Gpd1	7	22,6	1,363549426
P15919	V(D)J Recombination-activating protein 1; Endonuclease RAG1;E3 ubiquitin-protein ligase RAG1	Rag1	2	2,6	4,353341778
P16858; A0A1D5RLD; S4R1W1;	Glyceraldehyde-3-phosphate dehydrogenase	Gapdh; Gm3839	20	71,8	1,11882841

Q64467; V9GX06; V9GXA7					
P17225; B2RU80	Polypyrimidine tract-binding protein 1	Ptbp1	10	40	1,010126516
P28740; Q8C0N1	Kinesin-like protein KIF2A	Kif2a	11	14,6	1,735166157
P30681	High mobility group protein B2	Hmgb2	11	49,5	1,156788685
P41731	CD63 antigen	Cd63	1	4,6	4,721943701
P48432; P53783; Q811W0; P53784	Transcription factor SOX-2; Transcription factor SOX-1; Transcription factor SOX-21; Transcription factor SOX-3	Sox2;Sox1;Sox21;Sox3	2	8,2	2,272434135
P56135	ATP synthase subunit f, mitochondrial	Atp5j2	2	26,1	1,413832201
P56564; O35544	Excitatory amino acid transporter 1	Slc1a3	5	15,7	1,062490733
P61164	Alpha-centractin	Actr1a	3	27,7	1,599889888
P62305	Small nuclear ribonucleoprotein E	Snrpe	2	25	1,351564329
P62315	Small nuclear ribonucleoprotein Sm D1	Snrpd1	5	54,6	1,892518322
P62320	Small nuclear ribonucleoprotein Sm D3	Snrpd3	3	31,7	1,153755406
P62892	60S Ribosomal protein L39	Rpl39	1	19,6	1,008486093
P63028	Translationally-controlled tumor protein	Tpt1	5	34,3	1,541641712
P63082	V-Type proton ATPase 16 kDa proteolipid subunit	Atp6v0c	2	31,6	1,314302637
P63325; A0A3B2W864	40S Ribosomal protein S10	Rps10	5	33,3	1,03745558
P68134; P68033; P62737; P63268	Actin, alpha skeletal muscle; Actin, alpha cardiac muscle 1; Actin, aortic smooth muscle; Actin, gamma-enteric smooth muscle	Acta1;Actc1; Acta2;Actg2	1	34,7	1,282806725
P68369; P05214	Tubulin alpha-1A chain; Tubulin alpha-3 chain	Tuba1a; Tuba3a	1	80,3	3,370136521
Q01730	Ras suppressor protein 1	Rsu1	5	24,2	2,617973124
Q3TW96;Q91YN5	UDP-N-acetylhexosamine pyrophosphorylase-like protein 1	Uap1l1	2	5,9	1,592914243
Q3TWW8	Serine/arginine-rich splicing factor 6	Srsf6	4	16,8	1,372126882
Q3TZ89	Protein transport protein Sec31B	Sec31b	2	1,5	1,137133582

Q3UGR5	Haloacid dehalogenase-like hydrolase domain-containing protein 2	Hdhd2	3	16,2	1,738474817
Q3UX10	Tubulin alpha chain-like 3	Tubal3	1	8,3	1,442220386
Q5SUF2	Luc7-like protein 3	Luc7l3	3	8,8	1,391529121
Q5SUR0	Phosphoribosylformylglycinamidine synthase	Pfas	8	8,8	1,499241778
Q60749; Q9WU01	KH domain-containing, RNA-binding, signal transduction-associated protein 1	Khdrbs1	7	25,1	1,381593087
Q61205	Platelet-activating factor acetylhydrolase IB subunit gamma	Pafah1b3	2	7,3	1,450606584
Q61206	Platelet-activating factor acetylhydrolase IB subunit beta	Pafah1b2	1	3,9	2,211123412
Q61249; Q9QZ29	Immunoglobulin-binding protein 1	Igbp1	3	13,2	1,116800011
Q62186	Translocon-associated protein subunit delta	Ssr4	4	30,8	1,899341285
Q64152	Transcription factor BTF3	Btf3	3	27	1,260510415
Q6P1F6; Q8BG02;Q6ZWR4; Q925E7	Serine/threonine-protein phosphatase 2A 55-kDa regulatory subunit B alpha isoform	Ppp2r2a	6	15,4	1,541125709
Q810B6	Rabankyrin-5	Ankfy1	1	1,3	1,047688017
Q8BHC4	Dephospho-CoA kinase domain-containing protein	Dcakd	6	27,7	1,228048373
Q8BHI7	Elongation of very long chain fatty acids protein 5	Elovl5	1	3	1,368859514
Q8BHT6	Beta-1,3-Glucosyltransferase	B3galtl	2	4,5	1,522895592
Q8BML9		Qars	2	3,1	1,409242314
Q8BRN9	Coiled-coil and C2 domain-containing protein 1B	Cc2d1b	28	48,5	8,625971144
Q8BUR4	Dedicator of cytokinesis protein 1	Dock1	5	3,2	1,273957919
Q8BVU5	ADP-ribose pyrophosphatase, mitochondrial	Nudt9	12	39,4	5,148520409
Q8BXK8;Q8VHH5	Arf-GAP with GTPase, ANK repeat and PH domain-containing protein 1	Agap1	10	16,7	2,401060435
Q8C2E7	WASH complex subunit strumpellin	Kiaa0196	2	2	1,146504113
Q8CGP5; Q8R1M2; Q8CGP7;	Histone H2A type 1-F; Histone H2A.J; Histone H2A type 1-K;	Hist1h2af; H2afj;	1	35,4	1,928399489

Q8BFU2; Q8CGP4; Q8CGP6; C0HKE9; C0HKE8; C0HKE7; C0HKE6; C0HKE5; C0HKE4; C0HKE3; C0HKE2; C0HKE1	Histone H2A type 3; Histone H2A; Histone H2A type 1-H	Hist1h2ak; Hist3h2a; Hist1h2aa; Hist1h2ah			
Q8K019	Bcl-2-Associated transcription factor 1	Bclaf1	9	14,9	1,506306238
Q8R010	Aminoacyl tRNA synthase complex-interacting multifunctional protein 2	Aimp2	3	19,4	1,742938995
Q8VDS4	Regulation of nuclear pre-mRNA domain-containing protein 1A	Rprd1a	1	5,8	1,247481055
Q8VGE3; Q60893	Olfactory receptor; Olfactory receptor 151	Olfr160; Olfr151	2	2,9	2,642190614
Q8VH51	RNA-binding protein 39	Rbm39	4	9,2	1,238317085
Q91W69	Epsin-3	Epn3	1	2,7	2,039262505
Q91W90	Thioredoxin domain-containing protein 5	Txndc5	6	20,1	1,146315575
Q91X97	Neurocalcin-delta	Ncald	3	33,7	3,177778292
Q91Z69	SLIT-ROBO Rho GTPase-activating protein 1	Srgap1	1	2,4	1,309674627
Q921F4	Heterogeneous nuclear ribonucleoprotein L-like	Hnrnpll	11	23,2	1,043987411
Q922P9	Putative oxidoreductase GLYR1	Glyr1	4	9,3	1,405402295
Q925I1	ATPase family AAA domain-containing protein 3	Atad3	4	6,3	2,243947744
Q925N0	Sideroflexin-5	Sfxn5	4	13,5	1,736791155
Q99KN9	Clathrin interactor 1	Clint1	20	28,4	3,235505151
Q99M28	RNA-binding protein with serine-rich domain 1	Rnps1	2	7,5	1,557158456
Q9CQT1	Methylthioribose-1-phosphate isomerase	Mri1	3	9,2	1,489087194
Q9CWF2	Tubulin beta-2B chain	Tubb2b	2	79,6	2,207587926
Q9CX86	Heterogeneous nuclear ribonucleoprotein A0	Hnrnpa0	6	26,2	1,138289427

Q9CY50	Translocon-associated protein subunit alpha	Ssr1	2	8	1,16509753
Q9CY62	E3 ubiquitin-protein ligase RNF181	Rnf181	1	4,8	1,706513368
Q9D024	Coiled-coil domain-containing protein 47	Ccdc47	8	20,3	1,295595125
Q9D3B1	Very-long-chain (3R)-3-hydroxyacyl-CoA dehydratase 2	Hacd2	1	4,7	1,266659235
Q9D883; Q8BGJ9	Splicing factor U2AF 35-kDa subunit	U2af1	6	33,5	2,766214711
Q9DBS1	Transmembrane protein 43	Tmem43	2	6	3,031366943
Q9EP53	Hamartin	Tsc1	2	2	2,360121666
Q9JJI8	60S ribosomal protein L38	Rpl38	5	50	1,16335522
Q9QZM0	Ubiquilin-2	Ubqln2	3	9,2	1,23705456
Q9Z0U1;Q9QXY1	Tight junction protein ZO-2	Tjp2	31	29,3	2,541364885
Q9Z1N5	Spliceosome RNA helicase Ddx39b	Ddx39b	4	39,7	1,11493492
Q9Z2X1	Heterogeneous nuclear ribonucleoprotein F; Heterogeneous nuclear ribonucleoprotein F, N-terminally processed	Hnrnpf	11	45,3	2,081889252
F6ZDS4	Nucleoprotein TPR	Tpr	81	38,6	3,68707732
O35691	Pinin	Pnn	4	6,9	2,420941111
P07356	Annexin A2	Anxa2	11	32,4	1,266777294
P18529;A0A075B5Q0;A0A075B5R3;A0A075B5Q4;A0A075B5Q2;A0A075B5R1;A0A075B5Q6;A0A075B5T2;A0A075B5P9;A0A075B5T3;A0A0A6YWU3;A0A075B5S5;A0A075B5R2;J3QNN6;P18525;P18524;P18530;P18526;P18527;P18528;P01801;P01802;P01799;P	Ig heavy chain V region 5-76; Ig heavy chain V region 5-84; Ig heavy chain V region RF; Ig heavy chain V region 7-39; Ig heavy chain V region 345; Ig heavy chain V region 914; Ig heavy chain V region 6.96; Ig heavy chain V-III region J606; Ig heavy chain V-III region W3082; Ig heavy chain V-III region ABE-47N; Ig heavy chain V region AMPC1; Ig heavy chain V-III region E109; Ig heavy chain V-III region U61; Ig heavy chain V-III region T957; Ig heavy chain V-III region A4; Ig heavy chain V-III region HPC76; Ig heavy chain Mem5	Ighv5-6; Ighv7-2; Ighv5-12; Ighv5-9; Ighv5-17; Ighv5-9-1; Ighv6-3; Ighv5-4; Ighv6-6; Ighv6-7; Ighv7-4; Ighv7-3; Ighv6-4	2	12	1,890615233

01803;P01798;P01797;P01800;P01796;P01804;P84751					
P51807	Dynein light chain Tctex-type 1	Dynlt1	2	24,8	1,649027529
P52875	Transmembrane protein 165	Tmem165	1	5,9	1,1803963
P61514	60S ribosomal protein L37a	Rpl37a	3	41,3	1,244643723
P62301	40S ribosomal protein S13	Rps13	8	39,1	1,782793822
P62821	Ras-related protein Rab-1A	Rab1A	2	40,5	1,196854452
P63276	40S ribosomal protein S17	Rps17	6	51,9	1,660438441
P70333	Heterogeneous nuclear ribonucleoprotein H2	Hnrnph2	4	31,2	1,522513943
Q3TDN2	FAS-associated factor 2	Faf2	4	13,9	1,230129221
Q61881	DNA replication licensing factor MCM7	Mcm7	9	16,4	1,156083667
Q62095;Q61496	ATP-dependent RNA helicase DDX3Y	Ddx3y	1	28,1	1,808867741
Q62167;P16381	ATP-dependent RNA helicase DDX3X;Putative ATP-dependent RNA helicase Pl10	Ddx3x;D1Pas1	5	37,5	1,030478515
Q62446	Peptidyl-prolyl cis-trans isomerase FKBP3	Fkbp3	5	27,7	1,46042274
Q6ZWV7	60S ribosomal protein L35	Rpl35	6	30,1	1,338456276
Q78IK2	Up-regulated during skeletal muscle growth protein 5	Usmg5	2	27,6	1,4526065
Q78XF5	Oligosaccharyltransferase complex subunit OSTC	Ostc	1	8,1	1,291364159
Q7TN29	Stromal membrane-associated protein 2	Smap2	1	1,9	1,293114934
Q8BY71	Histone acetyltransferase type B catalytic subunit	Hat1	2	7	1,061342768
Q8JZU2	Tricarboxylate transport protein, mitochondrial	Slc25a1	3	9,3	1,411726788
Q91V04	Translocating chain-associated membrane protein 1	Tram1	2	5,6	1,292887206
Q91V41	Ras-related protein Rab-14	Rab14	8	45,1	1,072374102
Q920E5;A0A0G2JEA5	Farnesyl pyrophosphate synthase	Fdps	10	32,6	1,288873239
Q99JX4	Eukaryotic translation initiation factor 3 subunit M	Eif3m	4	17,4	1,699933888
Q99K85	Phosphoserine aminotransferase	Psat1	18	59,2	1,405771987

Q9CQX2	Cytochrome b5 type B	Cyb5b	3	40,4	1,174725104
Q9CR67	Transmembrane protein 33	Tmem33	4	15	1,42845741
Q9CRA4	Methylsterol monooxygenase 1	Msmo1	3	10,9	1,05664817
Q9CZB0	Succinate dehydrogenase cytochrome b560 subunit, mitochondrial	Sdhc	2	12,4	1,855830867
Q9R0P4	Small acidic protein	Smap	2	12,7	1,241030791
Q9R0Q9	Mannose-P-dolichol utilization defect 1 protein	Mpdu1	3	13,8	1,245829558
Q9WTS2	Alpha-(1,6)-fucosyltransferase	Fut8	1	1,6	2,103859235