

Supplementary materials

Table S1 The list of ISG potential candidates that were identified using protein correlation profiling by calculating the Euclidean distance between them and ISGs markers (Chga, Cpe, Hid1, Ins1, Pcsk1, Pcsk2, Ptpn2, Scg5, Sytl4)

ISGs Makers	Target	Uniprot	Euclidean distance
Chga	Galnt2	tr A0A0G2JU25 A0A0G2JU25_RAT;tr D3ZFD2 D3ZFD2_RAT	0.0569184
Chga	Glg1	sp Q62638 GSLG1_RAT;tr G3V8G5 G3V8G5_RAT	0.0698319
Chga	Zfp11	tr M0RCA3 M0RCA3_RAT	0.088497
Chga	Ptpn2	sp Q63475 PTPR2_RAT	0.105461
Chga	Qsox2	tr D3ZP13 D3ZP13_RAT	0.117665
Chga	Fn1	sp P04937 FINC_RAT;tr A0A096P6L8 A0A096P6L8_RAT;tr F1LST1 F1LST1_RAT	0.134109
Chga	Hapln4	tr D3Z9H2 D3Z9H2_RAT	0.141703
Chga	Glt8d1	tr Q7TP03 Q7TP03_RAT;sp Q6AYF6 GL8D1_RAT	0.150501
Chga	Gosr1	sp Q62931 GOSR1_RAT	0.156834
Chga	Gcg	tr G3V6P5 G3V6P5_RAT;sp P06883 GLUC_RAT	0.190073
Chga	Atp6ap1	sp O54715 VAS1_RAT;tr Q6IRF8 Q6IRF8_RAT	0.219245
Chga	Cpn1	sp Q9EQV8 CBPN_RAT	0.225164
Chga	Pcsk2	sp P28841 NEC2_RAT	0.235778
Chga	Stc1	sp P97574 STC1_RAT	0.255162
Chga	Tmed4	tr G3V6N2 G3V6N2_RAT;tr A0A0G2K8M5 A0A0G2K8M5_RAT	0.260677
Chga	Scfd1	sp Q62991 SCFD1_RAT	0.272812
Chga	Plod3	sp Q5U367 PLOD3_RAT	0.277956
Chga	Tmed9	sp Q5I0E7 TMED9_RAT	0.281133
Chga	Tmed10	sp Q63584 TMEDA_RAT	0.28352
Chga	Cpe	tr D4A8X4 D4A8X4_RAT;sp P15087 CBPE_RAT	0.291278
Chga	Ins2	sp P01323 INS2_RAT	0.29236
Chga	Fam3a	tr B5DFJ2 B5DFJ2_RAT	0.306231
Cpe	Stc1	sp P97574 STC1_RAT	0.0569577
Cpe	Enpp2	sp Q64610 ENPP2_RAT;tr F1LSF4 F1LSF4_RAT;tr D3ZES5 D3ZES5_RAT	0.0629894
Cpe	Arcn1	sp Q66H80 COPD_RAT	0.0717812
Cpe	Pcsk2	sp P28841 NEC2_RAT	0.0744404
Cpe	Impad1	tr Q7TPJ5 Q7TPJ5_RAT;sp D4AD37 IMPA3_RAT	0.123147
Cpe	Copb1	sp P23514 COPB_RAT	0.12432
Cpe	Gc	tr Q68FY4 Q68FY4_RAT;sp P04276 VTDB_RAT	0.128805
Cpe	Pcsk1	tr A0A0G2JX54 A0A0G2JX54_RAT;sp P28840 NEC1_RAT	0.142568
Cpe	Ins1	sp P01322 INS1_RAT	0.152098
Cpe	Sytl4	sp Q8VHQ7 SYTL4_RAT	0.164674
Cpe	Clint1	tr A0A0G2JW94 A0A0G2JW94_RAT;tr Q6DGF2 Q6DGF2_RAT	0.166501
Cpe	Gosr1	sp Q62931 GOSR1_RAT	0.187481

Cpe	Copg1	sp Q4AEF8 COPG1_RAT;tr A0A0G2K1F3 A0A0G2K1F3_RAT	0.19069
Cpe	Tm9sf3	tr D3ZUD8 D3ZUD8_RAT	0.190761
Cpe	Qsox2	tr D3ZP13 D3ZP13_RAT	0.193194
Cpe	Ap2a1	tr D3ZUY8 D3ZUY8_RAT	0.206744
Cpe	Rab37	tr D4A0G7 D4A0G7_RAT	0.208311
Cpe	Ptpn2	sp Q63475 PTPR2_RAT	0.213242
Cpe	Plod3	sp Q5U367 PLOD3_RAT	0.220945
Cpe	Tmed4	tr G3V6N2 G3V6N2_RAT;tr A0A0G2K8M5 A0A0G2K8M5_RAT	0.221403
Cpe	Scg5	tr G3V714 G3V714_RAT;sp P27682 7B2_RAT	0.221507
Hid1	Tmem30a	tr A0A0G2JXG3 A0A0G2JXG3_RAT;sp Q6AY41 CC50A_RAT	0.132401
Hid1	Ncstn	tr B3DM90 B3DM90_RAT;sp Q8CGU6 NICA_RAT	0.140366
Hid1	Sec24d	tr G3V9S9 G3V9S9_RAT	0.143599
Hid1	Napa	sp P54921 SNAA_RAT	0.149335
Hid1	Stx12	tr A0A0G2JVB6 A0A0G2JVB6_RAT;sp G3V7P1 STX12_RAT;tr A0A0G2K4U8 A0A0G2K4U8_RAT	0.167116
Hid1	Lamtor3	sp Q5U204 LTOR3_RAT	0.176782
Hid1	Cnp	sp P13233 CN37_RAT	0.181571
Hid1	Arfrp1	sp Q63055 ARFRP_RAT	0.182491
Hid1	Stampb	sp Q8R424 STABP_RAT	0.188186
Hid1	Lamp1	sp P14562 LAMP1_RAT	0.193812
Hid1	Rab11a	sp P62494 RB11A_RAT;tr A0A0G2JZR4 A0A0G2JZR4_RAT;sp O35509 RB11B_RAT	0.2052
Hid1	Lnpep	sp P97629 LCAP_RAT;tr A0A0H2UHK5 A0A0H2UHK5_RAT;tr A0A0G2JUW8 A0A0G2JUW8_RAT;tr A0A0G2JYN3 A0A0G2JYN3_RAT	0.206915
Ins1	Tmed10	sp Q63584 TMEDA_RAT	0.128213
Ins1	Rab37	tr D4A0G7 D4A0G7_RAT	0.134912
Ins1	Tmed7	sp D3ZTX0 TMED7_RAT	0.15524
Ins1	Scfd1	sp Q62991 SCFD1_RAT	0.162747
Ins1	Arcn1	sp Q66H80 COPD_RAT	0.162767
Ins1	Casc4	tr D3ZW58 D3ZW58_RAT	0.187641
Ins1	Rps27	sp Q71TY3 RS27_RAT;tr M0RA26 M0RA26_RAT	0.189074
Ins1	Tmem63b	tr D4A105 D4A105_RAT	0.193845
Ins1	Tmed1	sp Q5BK85 TMED1_RAT	0.195676
Ins1	Enpp2	sp Q64610 ENPP2_RAT;tr F1LSF4 F1LSF4_RAT;tr D3ZES5 D3ZES5_RAT	0.201641
Ins1	Vps45	sp O08700 VPS45_RAT	0.210855
Ins1	Sytl4	sp Q8VHQ7 SYTL4_RAT	0.216534
Ins1	Hs2st1	tr G3V7N0 G3V7N0_RAT	0.218947
Ins1	Tm9sf3	tr D3ZUD8 D3ZUD8_RAT	0.219586
Ins1	Galnt14	tr Q6AYA4 Q6AYA4_RAT	0.223466
Ins1	B3gat3	tr B2GV35 B2GV35_RAT	0.227941
Ins1	Stx5	sp Q08851 STX5_RAT	0.228368
Ins1	B4galt3	sp Q6P768 B4GT3_RAT	0.229702
Ins1	Gc	tr Q68FY4 Q68FY4_RAT;sp P04276 VTDB_RAT	0.229845

Ins1	Erp44	tr Q5VLR5 Q5VLR5_RAT	0.237435
Pcsk1	Clint1	tr A0A0G2JW94 A0A0G2JW94_RAT;tr Q6DGF2 Q6DGF2_RAT	0.105733
Pcsk1	Gc	tr Q68FY4 Q68FY4_RAT;sp P04276 VTDB_RAT	0.116375
Pcsk1	Impad1	tr Q7TPJ5 Q7TPJ5_RAT;sp D4AD37 IMPA3_RAT	0.129362
Pcsk1	Enpp2	sp Q64610 ENPP2_RAT;tr F1LSF4 F1LSF4_RAT;tr D3ZES5 D3ZES5_RAT	0.138934
Pcsk1	Rab37	tr D4A0G7 D4A0G7_RAT	0.14044
Pcsk1	Cpe	tr D4A8X4 D4A8X4_RAT;sp P15087 CBPE_RAT	0.142568
Pcsk1	Stc1	sp P97574 STC1_RAT	0.16125
Pcsk1	Tmed10	sp Q63584 TMEDA_RAT	0.170855
Pcsk1	Pcsk2	sp P28841 NEC2_RAT	0.171285
Pcsk1	Tmed4	tr G3V6N2 G3V6N2_RAT;tr A0A0G2K8M5 A0A0G2K8M5_RAT	0.17687
Pcsk1	Tmed1	sp Q5BK85 TMED1_RAT	0.178405
Pcsk1	Gosr1	sp Q62931 GOSR1_RAT	0.18601
Pcsk1	Tmed7	sp D3ZTX0 TMED7_RAT	0.190257
Pcsk1	Arcn1	sp Q66H80 COPD_RAT	0.191491
Pcsk1	Qsox2	tr D3ZP13 D3ZP13_RAT	0.207429
Pcsk1	Tll1	tr D3Z8U5 D3Z8U5_RAT	0.211053
Pcsk2	Cpe	tr D4A8X4 D4A8X4_RAT;sp P15087 CBPE_RAT	0.0744404
Pcsk2	Stc1	sp P97574 STC1_RAT	0.0855415
Pcsk2	Arcn1	sp Q66H80 COPD_RAT	0.104144
Pcsk2	Ins1	sp P01322 INS1_RAT	0.120378
Pcsk2	Enpp2	sp Q64610 ENPP2_RAT;tr F1LSF4 F1LSF4_RAT;tr D3ZES5 D3ZES5_RAT	0.13147
Pcsk2	Gosr1	sp Q62931 GOSR1_RAT	0.135317
Pcsk2	Qsox2	tr D3ZP13 D3ZP13_RAT	0.146571
Pcsk2	Ptprn2	sp Q63475 PTPR2_RAT	0.15023
Pcsk2	Plod3	sp Q5U367 PLOD3_RAT	0.159383
Pcsk2	Scg5	tr G3V714 G3V714_RAT;sp P27682 7B2_RAT	0.16188
Pcsk2	Pcsk1	tr A0A0G2JX54 A0A0G2JX54_RAT;sp P28840 NEC1_RAT	0.171285
Pcsk2	Impad1	tr Q7TPJ5 Q7TPJ5_RAT;sp D4AD37 IMPA3_RAT	0.177781
Pcsk2	Glb112	tr D3ZHQ5 D3ZHQ5_RAT	0.178107
Pcsk2	Tmed4	tr G3V6N2 G3V6N2_RAT;tr A0A0G2K8M5 A0A0G2K8M5_RAT	0.183778
Pcsk2	Gc	tr Q68FY4 Q68FY4_RAT;sp P04276 VTDB_RAT	0.195167
Pcsk2	Scfd1	sp Q62991 SCFD1_RAT	0.198284
Pcsk2	Tmed10	sp Q63584 TMEDA_RAT	0.205116
Pcsk2	Sytl4	sp Q8VHQ7 SYTL4_RAT	0.208412
Pcsk2	Glg1	sp Q62638 GSLG1_RAT;tr G3V8G5 G3V8G5_RAT	0.212342
Pcsk2	Rab37	tr D4A0G7 D4A0G7_RAT	0.212579
Pcsk2	Clint1	tr A0A0G2JW94 A0A0G2JW94_RAT;tr Q6DGF2 Q6DGF2_RAT	0.215882
Pcsk2	Tm9sf3	tr D3ZUD8 D3ZUD8_RAT	0.217874
Pcsk2	Tmed7	sp D3ZTX0 TMED7_RAT	0.223314
Pcsk2	Tmed9	sp Q5I0E7 TMED9_RAT	0.224433
Ptprn2	Qsox2	tr D3ZP13 D3ZP13_RAT	0.0587142

Ptprn2	Gosr1	sp Q62931 GOSR1_RAT	0.0628878
Ptprn2	Zfp11	tr M0RCA3 M0RCA3_RAT	0.0634938
Ptprn2	Man1b1	sp B2GUY0 MA1B1_RAT	0.0850438
Ptprn2	Galnt2	tr A0A0G2JU25 A0A0G2JU25_RAT;tr D3ZFD2 D3ZFD2_RAT	0.105425
Ptprn2	Chga	sp P10354 CMGA_RAT;tr Q5PPG5 Q5PPG5_RAT	0.105461
Ptprn2	Gcg	tr G3V6P5 G3V6P5_RAT;sp P06883 GLUC_RAT	0.119256
Ptprn2	Glt8d1	tr Q7TP03 Q7TP03_RAT;sp Q6AYF6 GL8D1_RAT	0.121161
Ptprn2	Hapln4	tr D3Z9H2 D3Z9H2_RAT	0.127466
Ptprn2	Pcsk2	sp P28841 NEC2_RAT	0.15023
Ptprn2	Cpn1	sp Q9EQV8 CBPN_RAT	0.161079
Ptprn2	Tmed4	tr G3V6N2 G3V6N2_RAT;tr A0A0G2K8M5 A0A0G2K8M5_RAT	0.167965
Ptprn2	Fn1	sp P04937 FINC_RAT;tr A0A096P6L8 A0A096P6L8_RAT;tr F1LST1 F1LST1_RAT	0.170587
Ptprn2	Stc1	sp P97574 STC1_RAT	0.193266
Ptprn2	Tmed10	sp Q63584 TMEDA_RAT	0.195489
Ptprn2	Plod3	sp Q5U367 PLOD3_RAT	0.199308
Ptprn2	Atp6ap1	sp O54715 VAS1_RAT;tr Q6IRF8 Q6IRF8_RAT	0.201547
Ptprn2	Tmed9	sp Q5I0E7 TMED9_RAT	0.208727
Ptprn2	Cpe	tr D4A8X4 D4A8X4_RAT;sp P15087 CBPE_RAT	0.213242
Ptprn2	Pcsk1	tr A0A0G2JX54 A0A0G2JX54_RAT;sp P28840 NEC1_RAT	0.242089
Ptprn2	Fam3a	tr B5DFJ2 B5DFJ2_RAT	0.243979
Ptprn2	Enpp2	sp Q64610 ENPP2_RAT;tr F1LSF4 F1LSF4_RAT;tr D3ZES5 D3ZES5_RAT	0.251439
Ptprn2	Fam3c	tr A0A0G2JUB0 A0A0G2JUB0_RAT;sp Q810F4 FAM3C_RAT	0.260851
Scg5	Cpd	tr F1LPC6 F1LPC6_RAT;sp Q9JHW1 CBPD_RAT;tr A0A0G2JY30 A0A0G2JY30_RAT	0.101218
Scg5	Glg1	sp Q62638 GSLG1_RAT;tr G3V8G5 G3V8G5_RAT	0.11014
Scg5	Pcsk2	sp P28841 NEC2_RAT	0.16188
Scg5	Qsox2	tr D3ZP13 D3ZP13_RAT	0.179803
Scg5	Ndst1	sp Q02353 NDST1_RAT	0.197975
Scg5	Cpe	tr D4A8X4 D4A8X4_RAT;sp P15087 CBPE_RAT	0.221507
Scg5	Scfd1	sp Q62991 SCFD1_RAT	0.225001
Scg5	Arcn1	sp Q66H80 COPD_RAT	0.23407
Scg5	Ins1	sp P01322 INS1_RAT	0.249787
Scg5	Enpp2	sp Q64610 ENPP2_RAT;tr F1LSF4 F1LSF4_RAT;tr D3ZES5 D3ZES5_RAT	0.26516
Scg5	Tm9sf4	sp Q4KLL4 TM9S4_RAT;tr A0A0G2KA25 A0A0G2KA25_RAT	0.268902
Scg5	Hm13	tr D3ZP98 D3ZP98_RAT;tr A0A0G2K1Z9 A0A0G2K1Z9_RAT	0.26983
Scg5	Tmed4	tr G3V6N2 G3V6N2_RAT;tr A0A0G2K8M5 A0A0G2K8M5_RAT	0.280409
Scg5	Cant1	sp Q8K4Y7 CANT1_RAT	0.28343
Scg5	Erp44	tr Q5VLR5 Q5VLR5_RAT	0.295744
Sytl4	Fam234b	tr D3ZWJ9 D3ZWJ9_RAT	0.0384438
Sytl4	Vps45	sp O08700 VPS45_RAT	0.0424586
Sytl4	App	tr Q6P6Q5 Q6P6Q5_RAT;sp P08592 A4_RAT	0.0812737

Sytl4	Tspan13	sp Q5FVL6 TSN13_RAT	0.103997
Sytl4	St3gal1	tr E9PSJ1 E9PSJ1_RAT	0.107136
Sytl4	Tm9sf3	tr D3ZUD8 D3ZUD8_RAT	0.108053
Sytl4	Sec24d	tr G3V9S9 G3V9S9_RAT	0.111641
Sytl4	Lnpep	sp P97629 LCAP_RAT;tr A0A0H2UHK5 A0A0H2UHK5_RAT; tr A0A0G2JUW8 A0A0G2JUW8_RAT;tr A0A0G2JYN3 A0A0 G2JYN3_RAT	0.115862
Sytl4	Atp6v1h	tr A0A0G2K9J2 A0A0G2K9J2_RAT;tr E9PTI1 E9PTI1_RAT	0.129631
Sytl4	Vamp3	sp P63025 VAMP3_RAT	0.154318
Sytl4	Tfrc	tr G3V679 G3V679_RAT;sp Q99376 TFR1_RAT	0.155107
Sytl4	Ncstn	tr B3DM90 B3DM90_RAT;sp Q8CGU6 NICA_RAT	0.155809
Sytl4	Cant1	sp Q8K4Y7 CANT1_RAT	0.164371
Sytl4	Tm9sf4	sp Q4KLL4 TM9S4_RAT;tr A0A0G2KA25 A0A0G2KA25_ RAT	0.164508
Sytl4	Napa	sp P54921 SNAA_RAT	0.174195
Sytl4	Atp6v0c	sp P63081 VATL_RAT	0.174539
Sytl4	Tm9sf2	sp Q66HG5 TM9S2_RAT	0.179875
Sytl4	Nsf	tr F1LQ81 F1LQ81_RAT;sp Q9QUL6 NSF_RAT; tr A0A0G2K6U1 A0A0G2K6U1_RAT	0.19556
Sytl4	Slc12a9	tr M0RAK3 M0RAK3_RAT;tr M0R3V5 M0R3V5_RAT;tr A0A 096MJB7 A0A096MJB7_RAT;sp Q66HR0 S12A9_RAT	0.197675

Table S2 The list of 81 ISG candidates including their protein names, annotations by the previous studies, and sub-localization based on Uniprot database

Target	Names	Schwartz <i>et al.</i> 2012	Brunner <i>et al.</i> 2007	Hickey <i>et al.</i> 2009	Localization
Chga	Chromogranin-A	X	X	X	Intravesicular protein
Cpe	Carboxypeptidase E	X	X	X	Intravesicular protein
Ins1	Insulin-1	X	X	X	Intravesicular protein
Ins2	Insulin-2	X	X	X	Intravesicular protein
Enpp2	Ectonucleotide pyrophosphatase/ phosphodiesterase family member 2	X	X		Intravesicular protein
Fn1	Fibronectin	X	X		Intravesicular protein
Gc	Group specific component	X	X		Intravesicular protein
Stc1	Stanniocalcin-1	X	X		Intravesicular protein
Plod3	Procollagen-lysine,2-oxoglutarate 5-dioxygenase 3	X	X		Membrane protein
Ptprn2	Receptor-type tyrosine-protein phosphatase N2	X	X		Membrane protein
Vamp3	Vesicle-associated Membrane protein 3	X	X		Membrane protein
Gcg	Glucagon	X			Intravesicular protein
Pcsk1	Neuroendocrine convertase 1	X			Intravesicular protein
Qsox2	Sulfhydryl oxidase	X			Intravesicular protein
Atp6ap1	V-type proton ATPase subunit S1	X			Membrane protein
Arcn1	Coatomer subunit delta	X			Intravesicular protein
St3gal1	Protein St3gal1	X			Membrane protein
Cnp	2',3'-cyclic-nucleotide 3'-phosphodiesterase	X			Intravesicular protein
Lamp1	Lysosome-associated Membrane glycoprotein 1	X			Lysosome
Nsf	N-ethylmaleimide sensitive fusion protein, isoform CRA_b	X			Cytoplasm
B3gat3	Galactosylgalactosylxylosyl protein 3-beta- glucuronosyltransferase	X			Membrane protein
Rps27	40S ribosomal protein S27	X			Other
Rab11a	Ras-related protein Rab-11A	X			Membrane protein

Slc12a9	Solute carrier family 12 member 9	X			Membrane protein
Cpd	Carboxypeptidase D	X			Membrane protein
Tfrc	Transferrin receptor protein 1	X			Membrane protein
App	Amyloid beta A4 protein	X			Membrane protein/ Membrane-associated protein
Tmed9	TransMembrane emp24 domain-containing protein 9	X			Membrane-associated protein
Tmed10	TransMembrane emp24 domain-containing protein 10			X	Membrane-associated protein
Atp6v1h	Protein Atp6v1h		X		Membrane protein
Cpn1	Carboxypeptidase N catalytic chain		X		Intravesicular protein
Glb1l2	Beta-galactosidase		X		Intravesicular protein
Pcsk2	Neuroendocrine convertase 2		X		Intravesicular protein
Scg5	Neuroendocrine protein 7B2		X		Intravesicular protein
Syt14	Synaptotagmin-like protein 4		X		Membrane protein
Rab37	Protein Rab37		X		Membrane protein/ Membrane-associated protein
Ap2a1	Adaptor protein complex AP-2, alpha 1 subunit (Predicted)				Membrane protein
Arfrp1	ADP-ribosylation factor-related protein 1				Membrane-associated protein
Atp6v0c	V-type proton ATPase 16 kDa proteolipid subunit				Membrane protein
B4galt3	Beta-1,4-galactosyltransferase 3				Membrane-associated protein
Cant1	Soluble calcium-activated nucleotidase 1				Membrane-associated protein
Casc4	Protein Casc4				Membrane protein
Clint1	Protein Clint1				Membrane-associated protein
Copb1	Coatomer subunit beta				Intravesicular protein
Copg1	Coatomer subunit gamma-1				Intravesicular protein
Erp44	BWK4				ER

Fam234b	Protein Fam234b				Other
Fam3a	Fam3a protein				Membrane-associated protein
Fam3c	Protein FAM3C				Membrane-associated protein
Galnt14	Polypeptide N-acetylgalactosaminyltransferase				Membrane-associated protein
Galnt2	Polypeptide N-acetylgalactosaminyltransferase				Membrane-associated protein
Glg1	Golgi apparatus protein 1				Membrane-associated protein
Glt8d1	Da2-24				Membrane protein
Gosr1	Golgi SNAP receptor complex member 1				Membrane protein
Hapln4	Hyaluronan and proteoglycan link protein 4 (Predicted)				Membrane-associated protein
Hm13	Histocompatibility 13 (Predicted), isoform CRA_a				Membrane protein
Hs2st1	Heparan sulfate 2-O-sulfotransferase 1, isoform CRA_a				Membrane protein
Impad1	Ac2-190				Membrane protein
Lamtor3	Ragulator complex protein LAMTOR3				Membrane-associated protein
Lnpep	Leucyl-cystinyl aminopeptidase				Membrane protein
Man1b1	Endoplasmic reticulum mannosyl-oligosaccharide 1,2-alpha-mannosidase				ER
Napa	Alpha-soluble NSF attachment protein				Membrane protein
Ncstn	Ncstn protein				Membrane protein
Ndst1	Bifunctional heparan sulfate N-deacetylase/ N-sulfotransferase 1				Membrane-associated protein
Scfd1	Sec1 family domain-containing protein 1				Membrane-associated protein
Sec24d	Protein Sec24d				Membrane protein
Stamp	STAM-binding protein				Membrane protein
Stx12	Syntaxin-12				Membrane-associated protein

Stx5	Syntaxin-5				Membrane-associated protein
Tll1	Metalloendopeptidase				Other
Tm9sf2	TransMembrane 9 superfamily member 2				Membrane protein
Tm9sf3	TransMembrane 9 superfamily member				Membrane protein
Tm9sf4	TransMembrane 9 superfamily member 4				Membrane protein
Tmed1	TransMembrane emp24 domain-containing protein 1				Membrane-associated protein
Tmed4	Protein Tmed4				Membrane-associated protein
Tmed7	TransMembrane emp24 domain-containing protein 7				Membrane-associated protein
Tmem30a	Cell cycle control protein 50A				Membrane protein
Tmem63b	Protein Tmem63b				Membrane protein
Tspan13	Tetraspanin-13				Membrane protein
Vps45	Vacuolar protein sorting-associated protein 45				Membrane protein/ Membrane-associated protein
Zfp11	Protein Zfp11				Membrane protein/ Membrane-associated protein

“X” indicates that the candidate is reported in the literatures.