

Human CaaX prenyltransferase substrates

Name	GI	classification	cellular localization	biological relevance	C	a1	a2	X	substrate for		PMID
									FT	GGT-I	
Apolipoprotein L3 (Apolipoprotein L-III)	17433280	apolipoprotein L family	cytoplasmic (probable)	may affect the movement of lipids in the cytoplasm or allow the binding of lipids to organelles	C	H	T	H	H		
CNL3 (Batten disease protein)	2498243	battenin family	liposomal membrane-associated	defects result in juvenile-onset ceroid lipofuscinosis neuronal type 3 (CLN3), also known as Batten disease	C	Q	L	Q	Y		9151320
Rod cGMP-specific 3',5'-cyclic phosphodiesterase α -subunit	2851392	cyclic nucleotide phosphodiesterase family	membrane-associated	visual signal transduction; defects result in autosomal recessive retinitis pigmentosa (ARRP)	C	C	I	Q	Y		1309771
Cyclin G2	9087132	cyclin family	cytoplasmic (by similarity)	may play a role in growth regulation and in negative regulation of cell cycle progression	C	F	P	S	H		
Aspartoacylase (Aminoacylase-2)	1168340	deacylase	high concentration in brain	catalyzes the deacetylation of N-acetylaspartic acid (NAA) to produce acetate and L-aspartate; defects cause Canavan disease	C	C	L	H	H		
Prostacyclin receptor (Prostanoid IP receptor) (PGI receptor)	1172500	family 1 of G-protein coupled receptors	membrane-associated	signal transduction; receptor for prostacyclin	C	S	L	C	Y		10446129
Heterotrimeric G-protein γ -11 subunit	1730223	G protein γ family	membrane-associated (by similarity); high levels in all tissues tested except brain	signal transduction	C	V	I	S	Y		7665596
Heterotrimeric G-protein γ -T2 subunit	3023844	G protein γ family	membrane-associated (by similarity); retinal cones	signal transduction	C	L	I	S	H		
Transducin γ chain (Guanine nucleotide-binding protein G(T) gamma-T1 subunit)	585181	G protein γ family	membrane-associated; retinal rod outer segment	signal transduction	C	V	I	S	Y		2217200
Interferon-induced guanylate-binding protein 1	417031	GBP family	primarily cytosolic (85%)	unknown	C	T	I	S	Y		8830800
β -1,4-galactosyltransferase 7	13123990	glycosyltransferase family 7	membrane-associated (cis cisternae of Golgi stack); high levels in heart, pancreas and liver, medium in placenta and kidney, low in brain, skeletal muscle and lung	role in glycosylation pathway; defects result in progeroid Ehlers-Danlos syndrome (EDS)	C	T	F	S	H		
DnaJ homolog subfamily A member 1 (HDJ-2)	1706474	heat shock protein	membrane-associated	may have role in protein import into mitochondria; co-chaperone of Hsc70	C	Q	T	S	Y		10873082
DnaJ homolog subfamily A member 4	27805462	heat shock protein	membrane-associated	unknown	C	Q	T	A	H		
Type 5 inositol-1,4,5-trisphosphate 5-phosphatase	8925284	inositol-1,4,5-trisphosphate 5-phosphatase family	unknown	unknown	C	S	V	S	H		
Type I inositol-1,4,5-trisphosphate 5-phosphatase	3122245	inositol-1,4,5-trisphosphate 5-phosphatase family	membrane-associated; expressed in brain, with high levels in Purkinje cells	signal termination through hydrolysis of calcium-mobilizing second messenger Ins(1,4,5)P3	C	V	V	Q	Y		8626616

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Lamin A/C (70 kDa lamin) (prelamin A)	125962	intermediate filament family	nuclear membrane	component of nuclear lamina, may provide framework for the nuclear envelope and may interact with chromatin; defects cause a variety of diseases including Emery-Dreifuss muscular dystrophy type 2 (EDMD2), dilated cardiomyopathy 1A (CMD1A), Hutchinson-Gilford progeria syndrome (HGPS), and Werner syndrome	C	S	I	M	Y		1557405
Lamin B1	125953	intermediate filament family	nucleoplasmic side of the inner nuclear membrane	component of nuclear lamina, may provide framework for the nuclear envelope and may interact with chromatin	C	A	I	M	Y		2684976
Lamin B2	23503078	intermediate filament family	nucleoplasmic side of the inner nuclear membrane	component of nuclear lamina, may provide framework for the nuclear envelope and may interact with chromatin	C	Y	V	M	H		
CENP-E (Centromeric protein E)	399227	kinesin-like protein family	associated with kinteochores during congression, moves to spindle midzone at anaphase	microtubule motor; probably kinetochore motor	C	K	T	Q	Y		10852915
CENP-F (mitosin)	1345731		nuclear matrix; kinetochore/centromere and spindle during mitosis	involved in chromosome segregation during mitosis; interacts with retinoblastoma protein (RB), CENP-E and BUBR1	C	K	V	Q	Y		10852915
Paralemmin	22653899	paralemmin family	membrane-associated; widely expressed, with highest levels in brain and testis, intermediate levels in heart and adrenal gland	may help control cell shape	C	S	I	M	Y		9813098
Protein phosphatase 1 regulatory inhibitor subunit 16A	22256976	phosphatase inhibitor	plasma membrane	inhibits protein phosphatase 1 activity on phosphorylase, myosin light chain and myosin substrates	C	L	L	M	H		
Protein phosphatase 1 regulatory inhibitor subunit 16B	22256977	phosphatase inhibitor	plasma membrane; high levels in vascular endothelium, CNS, lung, spleen, kidney, and testis	possible downstream target of TGF-beta1 signaling cascade in endothelial cells	C	R	I	S	H		
Phosphorylase B kinase α regulatory chain, liver isoform	1170685	phosphorylase b kinase regulatory chain family	primarily expressed in liver and other non-muscle tissue	involved in glycogen metabolism; defects associated with X-linked muscle glycogenosis	C	Q	M	Q	H		
Phosphorylase B kinase α regulatory chain, skeletal muscle isoform	1170683	phosphorylase b kinase regulatory chain family	primarily cytoplasmic, with small pool membrane-associated; expressed in muscle tissue	involved in glycogen metabolism; defects associated with X-linked muscle glycogenosis	C	A	M	Q	Y		1409665
Phosphorylase B kinase β regulatory chain	2499582	phosphorylase b kinase regulatory chain family	primarily cytoplasmic, with small pool membrane-associated; expressed in muscle tissue	serine phosphorylation; glycogen metabolism	C	L	I	S	Y		1409665
Ubiquitin specific protease 32	22550104	protease	unknown	unknown	C	V	I	Q	Y		8617711
Peroxisomal farnesylated protein	729723	PXF/PEX19 family	outer surface of the peroxisome membrane	may be involved in peroxisomal biogenesis or assembly	C	L	I	M	Y		8188701
Rhodopsin kinase	2833269	Ser/Thr protein kinase family, GPRK subfamily	membrane-associated; expressed in retina and pineal gland	phosphorylation of rhodopsin; defects result in Oguchi disease 2, autosomal recessive retinitis pigmentosa (ARRP), and autosomal dominant retinitis pigmentosa (ADRP)	C	L	V	S	Y		1522899
RRP22 (Ras-related protein on chromosome 22)	3024572	small GTPase superfamily	membrane-associated	signal transduction	C	S	L	M	H		

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H-Ras	131869	small GTPase superfamily, Ras family	membrane-associated	signal transduction; mutations associated with a variety of human tumor types including bladder cancers and oral squamous cell carcinomas	C	V	L	S	Y		1751286
K-Ras 2A (Ki-Ras)	131875	small GTPase superfamily, Ras family	membrane-associated	signal transduction; mutations associated with a variety of human tumor types	C	I	I	M	Y		1751286
K-Ras 2B (Ki-Ras)	131879	small GTPase superfamily, Ras family	membrane-associated	signal transduction; mutations associated with a variety of human tumor types	C	V	I	M	Y	Y*	1751286
N-Ras	131883	small GTPase superfamily, Ras family	membrane-associated	signal transduction; mutations associated with a variety of human tumor types	C	V	V	M	Y	Y*	1751286
Rap-2a	131852	small GTPase superfamily, Ras family	membrane-associated	signal transduction	C	N	I	Q	Y		8424780
Di-Ras1 (small GTP-binding tumor suppressor 1)	21553323	small GTPase superfamily, Ras family, Di-Ras subfamily	membrane-associated; expressed in brain and heart	signal transduction; may have role in regulation of membrane transport	C	T	L	M	Y	Y*	12107278
Di-Ras2	21703367	small GTPase superfamily, Ras family, Di-Ras subfamily	membrane-associated; expressed in brain	signal transduction; may have role in regulation of membrane transport	C	V	I	M	H		12194967
Dexamethasone-induced Ras-related protein 1	38258272	small GTPase superfamily, RasD family	expressed in heart, brain, placenta, lung, liver, skeletal muscle, kidney, and pancreas; highest levels in heart	may have role in dexamethasone-induced alterations in cell morphology, growth and cell-extracellular matrix interactions	C	V	I	S	H		
Rhes (Ras homolog enriched in striatum)	21362868	small GTPase superfamily, RasD family	membrane-associated; expressed in pancreatic endocrine cells (islets of Langerhans)	signal transduction; may be involved in mediating insulin secretory response to efaroxan	C	T	I	Q	Y		14724584
Rheb (Ras homolog enriched in brain 2)	6919957	small GTPase superfamily, Rheb family	membrane-associated; highest levels in skeletal and cardiac muscle	signal transduction	C	S	V	M	Y		9099708
Rho6 (Rnd1)	2500182	small GTPase superfamily, Rho family	membrane-associated; expressed in brain and liver	role in rearrangement of the actin cytoskeleton and formation of some neuritic processes	C	S	I	M	Y		9531558
RhoD	3024539	small GTPase superfamily, Rho family	membrane-associated; highest levels in heart, placenta, liver, skeletal muscle, and pancreas	may be involved in endosome dynamics; may coordinate membrane transport with function of cytoskeleton and aid in reorganization of actin cytoskeleton	C	V	V	T	H		
RhoE (Rho8) (Rnd3)	1710230	small GTPase superfamily, Rho family	membrane-associated; ubiquitous	may have role in actin cytoskeleton organization and biogenesis, and cell adhesion	C	T	V	M	H		
RhoI	13633743	small GTPase superfamily, Rho family	membrane-associated (by similarity); expressed in normal breast and ovarian epithelial cells, but not in breast and ovarian cancers	signal transduction	C	I	I	M	H		
RhoN (Rho7) (Rnd2)	2507301	small GTPase superfamily, Rho family	membrane-associated (by similarity); high levels in testis	may have role in neuronal and hepatic functions	C	N	L	M	H		
RhoQ (TC10)	134080	small GTPase superfamily, Rho family	membrane-associated	signal transduction	C	L	I	T	H		
Rho-related BTB domain-containing protein 3	26006843	small GTPase superfamily, Rho family	membrane-associated (by similarity); high levels in neural and cardiac tissues, pancreas, placenta and testis	signal transduction	C	L	V	M	H		
Stonin 1 (Stoned B-like factor)	33860221	Stoned B family	cytoplasmic, some fraction is membrane-associated	may be involved in endocytic machinery	C	I	T	Q	H		

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Tetraspan NET-7	11135165	tetraspanin (TM4SF) family	integral membrane protein (probable)	unknown	C	Y	P	N	H		
Tetraspanin 1	12643622	tetraspanin (TM4SF) family	membrane-associated	unknown	C	N	L	Q	H		
Protein tyrosine phosphatase PTPCAAX1	1777755	tyrosine phosphatase	membrane-associated	unknown	C	C	I	Q	Y		9018080
Protein tyrosine phosphatase PTPCAAX2	1777757	tyrosine phosphatase	membrane-associated	unknown	C	C	V	Q	Y		9018080
Protein tyrosine phosphatase type IVA, member 3 isoform 1	14589856	tyrosine phosphatase	membrane-associated	overexpression inhibits angiotensin-II-induced calcium mobilization and promotes cell growth	C	C	V	M	H		
CAAX box protein 1 (Cerebral protein-5)	9087144	unknown	plasma membrane	unknown	C	V	L	A	H		
LIM-only protein 6 (triple LIM domain protein 6)	22096354	unknown	widely expressed	unknown	C	I	V	A	H		
Parkin coregulated gene protein (PARK2 coregulated)	46396493	unknown	cytoplasmic (probable)	susceptibility to leprosy is associated with PARK2	C	L	L	N	H		
WD and tetratricopeptide repeats protein 1	41018470	unknown	unknown	unknown	C	R	P	S	H		
Zinc finger DHHC domain containing protein 19	37999851	unknown	integral membrane protein (potential)	unknown	C	F	P	S	H		
Hepatitis delta virus large antigen	46200326	viral protein	nuclear membrane	facilitates viral assembly and release	C	R	P	Q	Y		
B melanoma antigen 1 precursor	5915765	BAGE family	not expressed in normal tissues, except in testis; high levels in melanomas and other tumors (bladder, head and neck squamous cell, lung, and breast carcinomas)	unknown	C	F	I	F	H	H	
B melanoma antigen 5 precursor	37537778	BAGE family	not expressed in normal tissues, except in testis; expressed in melanomas and bladder and lung carcinomas	unknown	C	F	I	F	H	H	
NADH-cytochrome b5 reductase	127846	reductase	membrane-bound on cytoplasmic side of the ER, soluble in erythrocytes	involved in microsomal electron transport system; desaturation and elongation of fatty acids, cholesterol biosynthesis, drug metabolism, and methemoglobin reduction (in erythrocytes); defects cause hereditary methemoglobinemia (HM)	C	F	V	F	H	H	
TC21 (R-Ras2)	2507282	small GTPase superfamily, Ras family	inner surface of plasma membrane; high levels in heart, placenta, and skeletal muscle; moderate levels in lung and liver; low levels in brain, kidney, and pancreas	may transduce growth inhibitory signals across the cell membrane; antagonist of Ras proteins	C	V	I	F	Y	Y	7761092
Cdc42 homolog (G25K GTP-binding protein)	46397381	small GTPase superfamily, Rho family	membrane-associated	involved in epithelial cell polarization processes; induces formation of filopodia.	C	C	I	F	H	Y	1898776
Rac3 (Ras-related C3 botulinum toxin substrate 3)	46397673	small GTPase superfamily, Rho family	cytoplasmic, membrane-associated when activated; high levels in brain, heart, placenta, and pancreas	signal transduction	C	T	V	F	H	H	
RhoB	132542	small GTPase superfamily, Rho family	membrane-associated	regulates signal transduction pathway affecting the assembly of focal adhesions and actin stress fibers	C	K	V	L	Y	Y	1400319
RhoH (GTP-binding protein TTF)	2500200	small GTPase superfamily, Rho family	membrane-associated (by similarity); expressed only in hemopoietic cells	involved in chromosomal translocation with BCL6	C	K	I	F	H	H	
2',3'-cyclic nucleotide 3'-phosphodiesterase	1705945	2',3'-cyclic nucleotide 3'-phosphodiesterase	membrane-associated in brain white matter	phosphodiesterase	C	T	I	I		Y	7884818
Aldehyde dehydrogenase 7	1169285	aldehyde dehydrogenase family	high levels in kidney and lung	ethanol metabolism	C	T	L	L		H	

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Aldehyde dehydrogenase 8	1352247	aldehyde dehydrogenase family	high levels in salivary gland	ethanol metabolism	C	T	L	L		H	
Cone cGMP-specific 3',5'-cyclic phosphodiesterase α -subunit	1705960	cyclic nucleotide phosphodiesterase family	membrane-associated	visual signal transduction; cGMP-specific phosphodiesterase activity	C	L	M	L		H	
Rod cGMP-specific 3',5'-cyclic phosphodiesterase β -subunit	544052	cyclic nucleotide phosphodiesterase family	membrane-associated	visual signal transduction; necessary for the formation of a functional phosphodiesterase holoenzyme; defects result in autosomal recessive/dominant retinitis pigmentosa (ARRP/ADRP)	C	C	I	L		Y	1309771
Heterotrimeric G-protein γ -10 subunit	1730222	G protein γ family	membrane-associated (by similarity)	signal transduction	C	A	L	L		Y	7665596
Heterotrimeric G-protein γ -12 subunit	12229817	G protein γ family	membrane-associated (by similarity)	signal transduction	C	I	I	L		H	
Heterotrimeric G-protein γ -13 subunit	20138402	G protein γ family	membrane-associated (by similarity)	signal transduction	C	T	I	L		H	
Heterotrimeric G-protein γ -2 subunit	32699499	G protein γ family	membrane-associated (by similarity); expressed in fetal tissues, including testis, adrenal gland, brain, white blood cells and brain	signal transduction	C	A	I	L		Y	7782351
Heterotrimeric G-protein γ -3 subunit	232146	G protein γ family	membrane-associated (by similarity); high levels in brain; low levels in testis	signal transduction; activation of MAPK	C	A	L	L		Y	7665596
Heterotrimeric G-protein γ -4 subunit	1730219	G protein γ family	membrane-associated (by similarity); expressed in brain, kidney, pancreas, skeletal muscle and faintly in cardiac muscle	signal transduction	C	T	I	L		Y	7665596
Heterotrimeric G-protein γ -5 like subunit	12229849	G protein γ family	membrane-associated (by similarity)	signal transduction	C	S	F	L		H	
Heterotrimeric G-protein γ -5 subunit	232147	G protein γ family	membrane-associated (by similarity); expressed in a variety of tissues	signal transduction	C	S	F	L		Y	7665596
Heterotrimeric G-protein γ -7 subunit	6016106	G protein γ family	membrane-associated (by similarity); expressed in a variety of tissues; down-regulated in pancreatic cancer	signal transduction	C	I	I	L		Y	7665596
Heterotrimeric G-protein γ -8 subunit	12232629	G protein γ family	membrane-associated (by similarity)	signal transduction	C	V	L	L		H	
Interferon-induced guanylate-binding protein 2	1169868	GBP family	membrane-associated	binds GTP, GDP, and GMP; induced by interferon gamma during macrophage activation	C	N	I	L		Y	8702422
Interferon-induced guanylate-binding protein 5	37999757	GBP family	membrane-associated	signal transduction	C	V	L	L		H	
X-linked retinitis pigmentosa GTPase regulator	2350309	guanine-nucleotide releasing factor	Golgi-associated; expressed in heart, brain, placenta, lung, liver, muscle, kidney, retina, pancreas and fetal retinal pigment epithelium	may have role in intracellular transport and visual perception; defects result in X-linked retinitis pigmentosa type 3 (RP3)	C	T	I	L		H	
Type II inositol-1,4,5-trisphosphate 5-phosphatase precursor	1352493	inositol-1,4,5-trisphosphate 5-phosphatase type II family	membrane-associated; expressed in platelets	signal termination by hydrolysis of calcium-mobilizing second messenger Ins(1,4,5)P3	C	N	P	L		Y	7721860
Mannose-6-phosphate isomerase	462567	mannose-6-phosphate isomerase family 1	cytoplasmic (probable); expressed in all tissues, more abundant in heart, brain, and skeletal muscle	glycosylation; defects result in congenital disorder glycosylation type Ib (CDG-Ib)	C	C	L	L		H	
Mitochondrial 28S ribosomal protein S29 (death-associated protein 3)	1706299	mitochondrial ribosome	mitochondria	involved in mediating interferon-gamma-induced cell death	C	A	Y	L		H	
CASP8 and FADD-like apoptosis regulator precursor (splice isoform 10)	12643547	peptidase family C14	high levels in skeletal muscle, pancreas, heart, kidney, placenta, and peripheral blood leukocytes	regulator of apoptosis	C	S	T	L		H	
G protein-coupled receptor kinase 7	21263659	Ser/Thr protein kinase family, GPRK subfamily	membrane-associated; expressed in retina (rods and cones)	phosphorylates cone opsins, initiating their deactivation	C	L	L	L		Y	11717351

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M-Ras (R-Ras3)	6226045	small GTPase superfamily, Ras family	membrane-associated (by similarity); expressions restricted to brain and heart	may be important in controlling cell proliferation; weakly activates MAPK pathway; role in reorganization of actin cytoskeleton	C	V	I	L		H	
Ral-A	131834	small GTPase superfamily, Ras family	membrane-associated (by similarity)	signal transduction, chemotaxis	C	C	I	L		Y	1903399
Ral-B	131835	small GTPase superfamily, Ras family	membrane-associated (by similarity)	signal transduction	C	C	L	L		H	
Rap-1a	131855	small GTPase superfamily, Ras family	membrane-associated	signal transduction; partially counteracts the mitogenic function of Ras	C	L	L	L		Y	1899909
Rap-1b	131856	small GTPase superfamily, Ras family	membrane-associated	signal transduction	C	Q	L	L		Y	2123345
Rap-2b	20981707	small GTPase superfamily, Ras family	membrane-associated	signal transduction	C	V	I	L		Y	8424780
R-Ras	133486	small GTPase superfamily, Ras family	inner surface of plasma membrane	signal transduction	C	V	L	L		H	
Cdc42 (splice isoform 2)	46397381	small GTPase superfamily, Rho family	plasma membrane	involved in epithelial cell polarization processes; induces formation of filopodia.	C	V	L	L		Y	10676816
Rac1 (Ras-related C3 botulinum toxin substrate 1)	131807	small GTPase superfamily, Rho family	inner surface of plasma membrane	signal transduction; in active state, regulates cellular responses, such as secretory processes, phagocytosis of apoptotic cells, and epithelial cell polarization	C	L	L	L		Y	1903399
Rac2 (Ras-related C3 botulinum toxin substrate 2)	131806	small GTPase superfamily, Rho family	cytoplasmic ; membrane-associated when activated	regulates a variety of cellular responses, including secretory processes, phagocytosis of apoptotic cells, and epithelial cell polarization; possibly involved in regulation of NADPH oxidase	C	S	L	L		Y	1903399
RacX (Ras-related C3 botulinum toxin substrate homolog)	13633387	small GTPase superfamily, Rho family	inner surface of plasma membrane	may regulate secretory processes	C	L	Q	L		H	
RhoA	132540	small GTPase superfamily, Rho family	membrane-associated	regulates signal transduction pathway affecting the assembly of focal adhesions and actin stress fibers; target for yopT cysteine peptidase from <i>Y. pestis</i> (plague vector) and <i>Y. pseudotuberculosis</i> (cause of gastrointestinal disorders)	C	L	V	L		Y	1902099
RhoC	132543	small GTPase superfamily, Rho family	membrane-associated (by similarity)	regulates signal transduction pathway affecting the assembly of focal adhesions and actin stress fibers	C	P	I	L		Y	1400319
RhoF (Rif)	13633711	small GTPase superfamily, Rho family	membrane-associated (by similarity)	induces formation of filopodia; functions with CDC42 and Rac to form additional structures	C	L	L	L		H	
RhoG	464611	small GTPase superfamily, Rho family	membrane-associated (by similarity)	signal transduction; regulates cell cycle	C	I	L	L		H	
RhoJ (Tc10-like GTP-binding protein TCL)	24418646	small GTPase superfamily, Rho family	membrane-associated (by similarity)	signal transduction; induces formation of F-actin-rich structures in fibroblasts and involved in regulation of cell morphology	C	S	I	I		H	

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RhoU (Wrch1)	25304072	small GTPase superfamily, Rho family	membrane-associated (by similarity); highest levels in brain, skeletal muscle, and placenta, moderate levels in liver, lung, and heart, low levels in colon, spleen, kidney, and small intestine	regulates actin cytoskeletal organization, induces formation of filopodia and dissolution of stress fibers; Wnt-1-induced	C	C	F	V		H	
T-cell surface glycoprotein CD4 precursor	116013	Type I membrane protein	membrane-associated	involved in immune function: accessory protein for MHC class-II antigen/T-cell receptor interaction; may regulate T-cell activation; involved in HIV infection	C	P	S	I		H	
CUB and sushi multiple domains protein 1 precursor	38604975	Type I membrane protein (potential)	membrane-associated (potential)	potential suppressor of squamous cell carcinomas. Defects in CSMD1 may be a cause of oral and oropharyngeal squamous cell carcinomas	C	T	V	V		H	
CUB and sushi multiple domains protein 3 precursor	38604740	Type I membrane protein (potential)	membrane-associated (potential)	unknown	C	T	M	V		H	
Integral membrane protein 2C	12585259	Type II membrane protein (potential)	membrane-associated (potential)	unknown	C	G	V	V		H	
Beta-1,3-galactosyltransferase 5	13123995	Type II membrane protein (potential).	Golgi membrane (potential)	involved in glycosylation; catalyzes the transfer of GAL to GLNCNAC-based acceptors with a preference for the Core3 O-linked glycan	C	P	P	V		H	
Down syndrome critical region protein 10	23396579	unknown	unknown	expressed in placenta and testis	C	M	P	L		H	
F-box/LRR-repeat protein 2	38502830	unknown	expressed in brain, hear, kidney, liver, lung, pancreas, and placenta	probably binds phosphorylated proteins and promotes ubiquitination and degradation; part of a SCF protein ligase complex (by similarity)	C	V	I	L		H	
F-box/LRR-repeat protein 2-like	38503141	unknown	cytoplasmic (by similarity)	probably binds phosphorylated proteins and promotes ubiquitination and degradation; part of a SCF protein ligase complex (by similarity)	C	I	I	L		H	
Protein C20orf24 (Rab5-interacting protein)	24211596	unknown	unknown	membrane trafficking (proposed)	C	H	P	L		H	
Protein C21orf80	22261798	unknown	unknown	unknown	C	L	L	V		H	
Suppressor of potassium transport defect 3	25009267	unknown	unknown	may function as a regulatory ATPase and be related to secretion/protein trafficking process	C	N	T	I		H	
Cohen syndrome protein 1 (Isoform 5)	42558898	vesicle-mediated sorting and intracellular protein transport (potential)	integral membrane protein (potential)	defects cause Cohen syndrome	C	L	Y	L		H	