

Table S3. Comparison between the cellular enrichments observed for the PDZ domains in the screening construct and the reported localizations of the host proteins based on Gene Ontology Annotations (GOA).

uniprot	Name	GOA	PDZ domain	Enrichment
Q02410	APBA1	synaptic vesicle	APBA1_1	Discrete plasma membrane
			APBA1_2	Discrete plasma membrane
O96018	APBA3	cytoplasm membrane perinuclear region of cytoplasm	APBA3_2	Discrete plasma membrane
O14936	CASK	nucleus nuclear lamina cytoplasm plasma membrane cell-cell junction actin cytoskeleton nuclear matrix presynaptic membrane cilium membrane basement membrane	CASK	Strong plasma membrane
Q70Z35	DEPDC2	intracellular	DEPDC2_2	Subnuclear organelles
Q8TB45	DEPDC6	intracellular	DEPDC6	Subnuclear organelles Bright cytosolic spots
Q9P202	DFNB31	photoreceptor inner segment stereocilia ankle link complex membrane fraction soluble fraction cytoplasm actin filament cilium axon dendrite growth cone photoreceptor connecting cilium stereocilium stereocilium bundle cell projection neuronal cell body synapse	DFNB31_1 DFNB31_3	Subnuclear organelles Subnuclear organelles
Q12959	DLG1	basolateral plasma membrane endoplasmic reticulum nucleus cytosol	DLG1_2	Discrete plasma membrane

		immunological synapse sarcolemma tight junction plasma membrane postsynaptic density cell junction MPP7-DLG1-LIN7 complex		
Q15700	DLG2	plasma membrane cytoplasm postsynaptic membrane cell junction dendrite neuronal cell body synapse juxtapanode region of axon postsynaptic density	DLG2_2	Discrete plasma membrane
P78352	DLG4	cell junction cortical cytoskeleton dendrite cytoplasm endocytic vesicle membrane excitatory synapse plasma membrane postsynaptic membrane synaptosome	DLG4_3	Discrete plasma membrane
Q9C0E4	GRIP2	cytoplasm plasma membrane	GRIP2_6	Subnuclear organelles
Q92743	HTRA1	extracellular region cytoplasm	HTRA1	Discrete plasma membrane
Q14005	IL16	extracellular region intracellular nucleus cytoplasm plasma membrane	IL16_1 IL16_3	Bright cytosolic spots Subnuclear organelles
O14910	LIN7A	plasma membrane tight junction postsynaptic density basolateral plasma membrane synaptosome cell junction synapse postsynaptic membrane	LIN7A	Discrete plasma membrane
Q8TBB1	LNX1	cytoplasm	LNX1_4	Bright cytosolic spots

Q8N448	LNX2	NA	LNX2_1	Discrete plasma membrane Bright cytosolic spots
			LNX2_4	Bright cytosolic spots
Q96QZ7	MAG11	cytoplasm plasma membrane cell-cell junction tight junction membrane cell junction cell projection	MAG11_6	Subnuclear organelles
Q86UL8	MAG12	nucleus cytoplasm plasma membrane tight junction postsynaptic density cell junction synaptosome slit diaphragm protein complex synapse perinuclear region of cytoplasm	MAG12_4	Subnuclear organelles
Q5TCQ9	MAG13	intracellular nucleus plasma membrane tight junction	MAG13_3 MAG13_6	Bright cytosolic spots Discrete plasma membrane
P55196	MLLT4	nucleus cytosol plasma membrane cell-cell junction adherens junction	MLLT4	Discrete plasma membrane
O75970	MPDZ	cytoplasm plasma membrane tight junction postsynaptic density apical plasma membrane synaptosome cell junction dendrite synapse postsynaptic membrane	MPDZ_6 MPDZ_7	Subnuclear organelles Strong plasma membrane
Q00013	MPP1	membrane fraction integral to plasma membrane	MPP1	Discrete plasma membrane

		cortical cytoskeleton stereocilium cell projection		
Q9NZW5	MPP6	plasma membrane	MPP6	Discrete plasma membrane
Q5T2T1	MPP7	adherens junction tight junction membrane cell junction	MPP7	Discrete plasma membrane
Q8TEW0	PAR3	cytosol spindle plasma membrane cell-cell junction adherens junction tight junction cell cortex endomembrane system cell junction apical part of cell	PAR3_1	Discrete plasma membrane Subnuclear organelles
Q9NPB6	PAR6A	ruffle nucleus cytosol plasma membrane cell cortex tight junction cell junction cell projection apical part of cell	PAR6A	Discrete plasma membrane
Q9BYG4	PAR6G	cytosol plasma membrane tight junction cell junction	PAR6G	Discrete plasma membrane Subnuclear organelles
Q86UT5	PDZ3	cytosol plasma membrane brush border subapical complex apical part of cell	PDZ3_4	Discrete plasma membrane
Q9H5P4	PDZ7	nucleus cilium cell projection	PDZ7_2	Bright cytosolic spots
Q5EBL8	PDZ11	extracellular region cytosol basolateral plasma membrane	PDZ11	Subnuclear organelles

Q5T2W1	PDZK1	cytoplasm membrane brush border membrane	PDZK1_1	Discrete plasma membrane
Q9UPQ7	PDZRN3	neuromuscular junction	PDZRN3_1 PDZRN3_2	Discrete plasma membrane Discrete plasma membrane
Q96SB3	PPP1R9B	protein phosphatase type 1 complex nucleus cytoplasm cytoskeleton plasma membrane adherens junction lamellipodium cell junction filopodium ruffle membrane cell projection dendritic spine synapse	PPP1R9B	Discrete plasma membrane
Q8TEU7	RAPGEF6	intracellular nucleus cytoplasm plasma membrane	RAPGEF6	Bright cytosolic spots
Q9H190	SCDBP2	intracellular cytoplasm plasma membrane	SCDBP2_1 SCDBP2_2	Subnuclear organelles Subnuclear organelles
Q14160	SCRIB	cytoplasm plasma membrane cell-cell junction adherens junction membrane Scrib-APC-beta-catenin complex cell leading edge postsynaptic membrane presynaptic membrane	SCRIB_4	Subnuclear organelles
Q9Y566	SHANK1	membrane fraction cytoplasm plasma membrane postsynaptic density dendrite dendritic spine synapse postsynaptic membrane	SHANK1	Discrete plasma membrane Subnuclear organelles

		excitatory synapse ionotropic glutamate receptor complex		
O43166	SIPA1L1	intracellular cytoplasm cytoskeleton plasma membrane postsynaptic density synaptosome cell junction dendritic spine synapse postsynaptic membrane	SIPA1L1	Subnuclear organelles
O14745	SLC9A3R1	ruffle cytoplasm centrosome plasma membrane microvillus endomembrane system actin cytoskeleton apical plasma membrane filopodium brush border membrane microvillus membrane cell projection intracellular membrane-bounded organelle nucleus cell periphery	SLC9A3R1_1	Subnuclear organelles
Q15599	SLC9A3R2	nucleus cytoplasm endomembrane system plasma membrane apical plasma membrane	SLC9A3R2_1 SLC9A3R2_2	Subnuclear organelles Subnuclear organelles
Q9NSN8	SNTG1	nucleus cytoplasm cytoskeleton syntrophin complex ruffle membrane	SNTG1	Subnuclear organelles
Q9UMS6	SYNPO2	nucleus cytoplasm actin cytoskeleton Z disc	SYNPO2	Discrete plasma membrane
O95049	TJP3	plasma membrane tight junction	TJP3_1	Subnuclear organelles

apical plasma membrane
cell junction
