

Table 3: Protein family members. The GENE.FAMILY column shows the gene family name defined either by HGNC (superscript ‘H’, http://www.genenames.org/cgi-bin/family_search) or curated manually by us from Entrez IDs in the NCBI database (superscript ‘C’ for ‘Custom’) that we have identified as corresponding for each ENTITY.ID. The members of each gene family that are in at least one of our synaptic proteome datasets are shown in IN.SYNAPSE, whereas those not found in any datasets are in the column OUT.SYNAPSE. In some cases the intersection of two HGNC gene families are needed to specify the membership of our protein family; this is indicated by concatenation of the names with an ampersand.

ENTITY.ID	GENE.FAMILY	IN.SYNAPSE	OUT.SYNAPSE
AC	Adenylate cyclases ^H	<i>ADCY1, ADCY2, ADCY3, ADCY5, ADCY6, ADCY8, ADCY9</i>	<i>ADCY10, ADCY4, ADCY7</i>
actin	Actins ^H	<i>ACTA1, ACTA2, ACTB, ACTC1, ACTG1, ACTG2</i>	
ACTN	Actinins ^H	<i>ACTN1, ACTN2, ACTN3, ACTN4</i>	
AKAP	A-kinase anchoring proteins ^H	<i>ACBD3, AKAP1, AKAP10, AKAP12, AKAP13, AKAP2, AKAP5, AKAP6, AKAP7, AKAP9, ARFGEF2, CMYA5, EZR, MAP2, MYO7A, MYRIP, NBEA, NF2, SPHKAP, SYNM, WASF1</i>	<i>AKAP11, AKAP14, AKAP17A, AKAP17BP, AKAP3, AKAP4, AKAP8, CBFA2T3, RAB32</i>
CaM	Endogenous ligands & EF-hand domain containing ^H	<i>CALM1, CALM2, CALM3</i>	
CaMKK	calcium/calmodulin-dependent protein kinase kinase ^C	<i>CAMKK1, CAMKK2</i>	
CB	Calbindin ^C	<i>CALB1, CALB2</i>	
CK1	Casein kinase 1 ^C	<i>CSNK1A1, CSNK1D, CSNK1E, CSNK1G1, CSNK1G2, CSNK1G3</i>	
CRHR	Corticotropin releasing hormone receptors ^H		<i>CRHR1, CRHR2</i>
DAGL	Diacylglycerol lipase ^C	<i>DAGLA, DAGLB</i>	
DGK	Diacylglycerol kinases ^H	<i>DGKB, DGKE, DGKG, DGKI, DGKQ, DGKZ</i>	<i>DGKA, DGKD, DGKH, DGKK</i>
DNM	dynamin ^C	<i>DNM1, DNM2, DNM3</i>	
DRD	Dopamine receptors ^H	<i>DRD1, DRD2</i>	<i>DRD3, DRD4, DRD5</i>
DUSP	MAP kinase phosphatases ^H	<i>DUSP1, DUSP10, DUSP4</i>	<i>DUSP16, DUSP2, DUSP5, DUSP6, DUSP7, DUSP8, DUSP9, STYXL1</i>

Table 3: (continued)

ENTITY.ID	GENE.FAMILY	IN.SYNAPSE	OUT.SYNAPSE
Homer	Homer scaffolding proteins ^H	<i>HOMER1, HOMER2, HOMER3</i>	
IP3R	Inositol 1,4,5-triphosphate receptors ^H	<i>ITPR1, ITPR2, ITPR3</i>	
MAP2K	Mitogen-activated protein kinase kinases ^H	<i>MAP2K1, MAP2K2, MAP2K3, MAP2K4, MAP2K6, MAP2K7</i>	<i>MAP2K5</i>
MAPK	Mitogen-activated protein kinases ^H	<i>MAPK1, MAPK10, MAPK14, MAPK15, MAPK3, MAPK7, MAPK8, MAPK9</i>	<i>MAPK11, MAPK12, MAPK13, MAPK4, MAPK6</i>
mGluR	Glutamate metabotropic receptors ^H	<i>GRM1, GRM2, GRM3, GRM4, GRM5, GRM7, GRM8</i>	<i>GRM6</i>
NCX	Solute carrier family 8 (sodium/calcium exchanger) ^C	<i>SLC8A1, SLC8A2, SLC8A3</i>	
NOS	Nitric oxide synthase ^C	<i>NOS1, NOS2, NOS3</i>	
PDE	Phosphodiesterases ^H	<i>PDE10A, PDE11A, PDE1A, PDE1B, PDE1C, PDE2A, PDE4A, PDE4B, PDE4D, PDE6A, PDE6D, PDE8A, PDE8B, PDE9A</i>	<i>PDE3A, PDE3B, PDE4C, PDE5A, PDE6B, PDE6C, PDE6G, PDE6H, PDE7A, PDE7B</i>
PDE1	Phosphodiesterase 1 ^C	<i>PDE1A, PDE1B</i>	
PDE4	Phosphodiesterase 4 ^C	<i>PDE4A, PDE4B, PDE4D</i>	<i>PDE4C</i>
PI3K	Phosphoinositide 3-kinase ^C	<i>PIK3C2A, PIK3C2G, PIK3C3, PIK3CA, PIK3CB, PIK3CG, PIK3R1, PIK3R2, PIK3R4, PIK3R5</i>	<i>PIK3C2B, PIK3CD, PIK3R3, PIK3R6</i>
PKAC	Protein kinase cAMP-activated catalytic subunit ^C	<i>PRKACA, PRKACB</i>	<i>PRKACG</i>
PKAR	Protein kinase cAMP-dependent regulatory subunit ^C	<i>PRKAR1A, PRKAR1B, PRKAR2A, PRKAR2B</i>	
PKC	Protein kinase ^C	<i>PRKCA, PRKCB, PRKCD, PRKCE, PRKCG, PRKCI, PRKCQ, PRKCZ</i>	<i>PRKCH</i>

Table 3: (continued)

ENTITY.ID	GENE.FAMILY	IN.SYNAPSE	OUT.SYNAPSE
PLA2	Phospholipase A2 ^C	<i>PLA2G4A, PLA2G4B, PLA2G4E, PLA2G4F, PLA2G6</i>	<i>PLA2G10, PLA2G12A, PLA2G12B, PLA2G15, PLA2G16, PLA2G1B, PLA2G2A, PLA2G2C, PLA2G2D, PLA2G2E, PLA2G2F, PLA2G3, PLA2G4C, PLA2G4D, PLA2G5, PLA2G7</i>
PLC	Phospholipase C ^C	<i>PLCB1, PLCB3, PLCB4, PLCD1, PLCD3, PLCE1, PLCG1, PLCG2, PLCH1, PLCH2, PLCL1, PLCL2</i>	<i>PLCB2, PLCD4, PLCZ1</i>
PLCB	Phospholipase C beta ^C	<i>PLCB1, PLCB3, PLCB4</i>	<i>PLCB2</i>
PLCG	Phospholipase C gamma ^C	<i>PLCG1, PLCG2</i>	
PMCA	ATPases Ca ²⁺ transporting ^H	<i>ATP2A1, ATP2A2, ATP2A3, ATP2B1, ATP2B2, ATP2B3, ATP2B4, ATP2C1, ATP2C2</i>	
PP1	Protein phosphatase 1 catalytic subunits ^C	<i>PPP1CA, PPP1CB, PPP1CC</i>	
PPP1R	Protein phosphatase 1 regulatory subunits ^C	<i>PPP1R10, PPP1R12A, PPP1R12B, PPP1R13B, PPP1R1A, PPP1R1B, PPP1R2, PPP1R9A, PPP1R9B</i>	<i>PPP1R13L, PPP1R14A, PPP1R15A, PPP1R3A, PPP1R3C, PPP1R3D, PPP1R8</i>
PPP2C	Protein phosphatase 2 catalytic subunits ^C	<i>PPP2CA, PPP2CB</i>	
PPP2R	Protein phosphatase 2 regulatory subunits ^H	<i>PPP2R2A, PPP2R2C, PPP2R2D, PPP2R3A, PPP2R5A, PPP2R5B, PPP2R5C, PPP2R5D, PPP2R5E, STRN, STRN3, STRN4</i>	<i>PPP2R2B, PPP2R3B, PPP2R3C</i>
PPP2R1	Protein phosphatase 2 scaffold subunits ^H	<i>PPP2R1A, PPP2R1B</i>	
PPP2R3	Protein phosphatase 2 regulatory subunit B ^C	<i>PPP2R3A</i>	<i>PPP2R3B, PPP2R3C</i>
PPP2R5	Protein phosphatase 2 regulatory subunit B ^C	<i>PPP2R5A, PPP2R5B, PPP2R5C, PPP2R5D, PPP2R5E</i>	
PPP3C	Protein phosphatase 3 catalytic subunits ^C	<i>PPP3CA, PPP3CB, PPP3CC</i>	
PPP3R	Protein phosphatase 3 regulatory subunits ^H	<i>PPP3R1</i>	<i>PPP3R2</i>
Raf	RAF family ^H	<i>ARAF, BRAF, KSR1, KSR2, RAF1</i>	
RAP1	RAS-related protein-1 ^C	<i>RAP1A, RAP1B</i>	

Table 3: (continued)

ENTITY.ID	GENE.FAMILY	IN.SYNAPSE	OUT.SYNAPSE
RAS	RAS type GTPase family ^H	<i>DIRAS1, DIRAS2, HRAS, KRAS, MRAS, NKIRAS1, NKIRAS2, NRAS, RALA, RALB, RAP1A, RAP1B, RAP2A, RAP2B, RAP2C, RHEB, RRAS, RRAS2</i>	<i>DIRAS3, ERAS, RASD2, RASL10A, RASL10B, RASL11A, RASL11B, RASL12, RERG, RERGL, RHEBL1, RIT1, RIT2</i>
RASGRF	Ras protein specific guanine nucleotide releasing factor ^C	<i>RASGRF1, RASGRF2</i>	
SERCA	ATPase sarcoplasmic/endoplasmic reticulum Ca ²⁺ transporting ^C		<i>SERCA1, SERCA2, SERCA3</i>
Shank	Ankyrin repeat domain containing & PDZ domain containing ^H	<i>SHANK1, SHANK2, SHANK3</i>	
SHC	src homology 2 domain-containing transforming protein C ^C	<i>SHC3</i>	<i>SHC1, SHC2, SHC4</i>
SOS	Son of sevenless homolog; guanine nucleotide exchange factor ^C	<i>SOS1, SOS2</i>	
Spectrin	Spectrins ^H	<i>SPTA1, SPTAN1, SPTB, SPTBN1, SPTBN2, SPTBN4</i>	<i>SPTBN5</i>
VGCC	Calcium voltage-gated channel subunits ^H	<i>CACNA1A, CACNA1B, CACNA1C, CACNA1D, CACNA1E, CACNA1F, CACNA1G, CACNA1H, CACNA1I, CACNA1S, CACNA2D1, CACNA2D2, CACNA2D3, CACNB1, CACNB2, CACNB3, CACNB4, CACNG2, CACNG3, CACNG4, CACNG7, CACNG8</i>	<i>CACNA2D4, CACNG1, CACNG5, CACNG6</i>