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SHANK2 Rabbit pAb

Catalog # AP99722

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9UPX8
Other Accession	Q9UPX8
Reactivity	Mouse
Predicted	Rat, Human, Rabbit, Dog, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	201261
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SHANK2
Epitope Specificity	161-260/1470
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the SHANK family.Contains 1 PDZ (DHR) domain.Contains 1 SAM (sterile alpha motif) domain.Contains 1 SH3 domain.
SUBUNIT	Interacts with CTTN/cortactin SH3 domain, LGAP1/GKAP and alpha-latrotoxin receptor 1. Is part of a complex with DLG4/PSD-95 and DLGAP1/GKAP. Interacts with GRID2, SLC9A3, CFTR and PLCB3. Interacts with DBNL (By similarity). Interacts with DNM2. Interacts with BAIAP2.
DISEASE	All isoforms except isoform 7 are expressed predominantly in brain, with highest levels in olfactory bulb, cerebral cortex, cerebellum, central gray matter and hippocampus. Moderate levels of expression are seen in the caudate putamen, thalamic nuclei and brain stem. In cerebellum primarily expressed in Purkinje cells. Isoform 7 is not expressed in brain but expressed in liver, cholangiocytes and thymus. Isoform 7 is present in pancreas, colonic mucosa and thymocytes (at protein level).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	SH3 and multiple ankyrin repeat domains 1-3 (Shank1-3) of the Shank/ProSAP family are molecular scaffolds in the postsynaptic density (PSD). The PSD is an electron-dense structure underneath the postsynaptic plasma membrane of excitatory synapses that anchors and clusters glutamate receptors opposite to the presynaptic neurotransmitter release site. Shank proteins contain PDZ modular domains that coordinate the synaptic localization of ion channels, receptors, signaling enzymes, and cell adhesion molecules. The PDZ domain mediates protein-protein interactions via the recognition of a conserved sequence motif at the C-terminus of their target protein(s). Shank recruits betaPIX and PAK to spines to regulate postsynaptic structure and interacts with NMDA receptor and metabotropic glutamate receptor complexes. Transcript splice variation in the Shank family influences the spectrum of Shank-interacting proteins in the PSDs of adult and developing brain to ensure normal development.

Additional Information

Gene ID	22941
Other Names	AUTS17; CORTBP1; CTTNBP1; ProSAP1; SHANK; SPANK-3; mKIAA1022; Shank2E; SHAN2_HUMAN; SHANK2; Cortactin-binding protein 1 (CortBP1); Proline-rich synapse-associated protein 1; KIAA1022; SHAN2_MOUSE; SHAN2_RAT; GKAP/SAPAP-interacting protein; Proline-rich synapse-associated protein 1 (ProSAP1); SH3 and multiple ankyrin repeat domains 2; cortactin binding protein 1
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	SHANK2
Synonyms	CORTBP1, KIAA1022, PROSAP1
Function	Seems to be an adapter protein in the postsynaptic density (PSD) of excitatory synapses that interconnects receptors of the postsynaptic membrane including NMDA-type and metabotropic glutamate receptors, and the actin-based cytoskeleton. May play a role in the structural and functional organization of the dendritic spine and synaptic junction.
Cellular Location	Apical cell membrane. Cytoplasm. Synapse. Postsynaptic density. Cell projection, growth cone. Cell projection, dendritic spine. Note=Colocalizes with cortactin in growth cones in differentiating hippocampal neurons Colocalized with PDE4D to the apical membrane of colonic crypt cells (By similarity).
Tissue Location	Isoform 3 is present in epithelial colonic cells (at protein level).

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