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Rabbit Anti-SHANK 1/Cy5 Conjugated antibody

SL0211R-Cy5

Product Name	Anti-SHANK 1/Cy5
Chinese Name	Cy5 标记的富含脯氨酸突触相关蛋白 SHANK1 抗体
Alias	GKAP/SAPAP interacting protein; SH3 and multiple ankyrin repeat domains 1; SH3 and multiple ankyrin repeat domains protein 1; SHANK-1; Somatostatin receptor interacting protein; Somatostatin receptor-interacting protein; SH3 and multiple ankyrin repeat domains protein 1; SPANK 1; SSTR-interacting protein; Shank1; SPANK1; SSTR interacting protein; SSTRIP; SHAN1_HUMAN; Synamon.
Research Area	Neurobiology Signal transduction
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	(predicted:Human,Mouse,Rat)
Applications	IF=1:100-500 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	225kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human Shank1
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Product Detail	**background:** The mechanisms underlying the molecular assemblage of molecules at the

synapse are not well understood. Recently, a number of novel anchoring/scaffold proteins that are associated with postsynaptic density (PSD) proteins have been isolated. SHANK1, SHANK2 and SHANK3 constitute a family of proteins that may function as molecular scaffolds in the PSD. SHANK is made of five domain/regions that are probably involved in protein-protein interactions: ankyrin repeats, an SH3 domain, a PDZ domain, a SAM domain, and a proline rich region. SHANK interacts directly with GKAP or SAPAP via its PDZ domain, thus potentially bridging the N-methyl-D-aspartate receptor (NMDA)-PSD-95-GKAP complex.

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 via complexes with GKAP/PSD-95 and Homer, respectively, and the actin-based cytoskeleton. Plays a role in the structural and functional organization of the dendritic spine and synaptic junction.

Subunit:
May homomultimerize via its SAM domain (By similarity). Interacts with the C-terminus of SSTR2 via the PDZ domain. Interacts with IGSF9, SHARPIN, SPTAN1, HOMER1 and DLGAP1/GKAP isoforms 1 and 2 (By similarity). Part of a complex with DLG4/PSD-95 and DLGAP1/GKAP (By similarity). Interacts with BAIAP2.

Subcellular Location:
May homomultimerize via its SAM domain (By similarity). Interacts with the C-terminus of SSTR2 via the PDZ domain. Interacts with IGSF9, SHARPIN, SPTAN1, HOMER1 and DLGAP1/GKAP isoforms 1 and 2 (By similarity). Part of a complex with DLG4/PSD-95 and DLGAP1/GKAP (By similarity). Interacts with BAIAP2.

Tissue Specificity:
Expressed in brain particularly in the amygdala, hippocampus, substantia nigra and thalamus. Isoform 2 seems to be expressed ubiquitously.

Similarity:
Belongs to the SHANK family.
Contains 6 ANK repeats.
Contains 1 PDZ (DHR) domain.
Contains 1 SAM (sterile alpha motif) domain.
Contains 1 SH3 domain.

Database links:

Entrez Gene: 50944 Human

Entrez Gene: 243961 Mouse

Entrez Gene: 78957 Rat

Omim: 604999 Human

SwissProt: Q9Y566 Human

SwissProt: D3YZU1 Mouse

SwissProt: Q9WV48 Rat

Unigene: 274255 Human

Unigene: 360368 Mouse

Unigene: 225968 Rat

Important Note:
This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

有学者认为：shank-1 似乎是具有兴奋性突触 PSD 中的连接蛋白，它可以连接后突触膜受体，包括 NMDA-Type 和谷氨酸受体等。在树突旋转和突触连接的有机体功能和结构方面起重要作用。shank1 主要表达在脑组织内，属于 shank 家族。