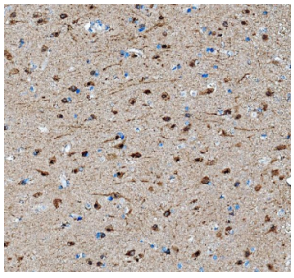
SAP102 Antibody / Synapse-associated protein 102 (R32954)

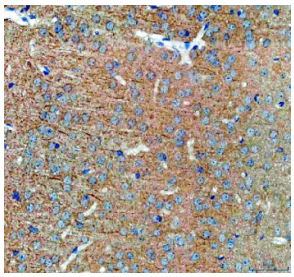
Catalog No.	Formulation	Size
R32954	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q92796
Localization	Cytoplasmic, nuclear
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This SAP102 antibody is available for research use only.

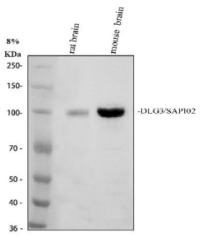


Immunohistochemistry analysis of SAP102/DLG3 expression in human brain tissue. Paraffin-embedded human brain sections were subjected to heat-mediated antigen retrieval in EDTA buffer (pH 8.0) and incubated with anti-SAP102/DLG3 antibody, followed by HRP-conjugated secondary antibody and DAB chromogen development. Brown staining is observed in neuronal cells, consistent with synapse-associated protein 102 localization, with hematoxylin nuclear counterstain (blue).



Immunohistochemistry analysis of SAP102/DLG3 expression in mouse brain tissue. Paraffin-embedded mouse brain sections were subjected to heat-mediated antigen retrieval in EDTA buffer (pH 8.0) and incubated with anti-SAP102/DLG3 antibody, followed by HRP-conjugated secondary antibody and DAB chromogen development. Brown immunoreactivity is observed in neuronal cells and surrounding neuropil, consistent with synapse-associated protein 102 distribution, with hematoxylin nuclear counterstain (blue).

Immunohistochemistry analysis of SAP102/DLG3 expression in rat brain tissue. Paraffin-embedded rat brain sections were subjected to heat-mediated antigen retrieval in EDTA buffer (pH 8.0) and incubated with anti-SAP102/DLG3 antibody, followed by HRP-conjugated secondary antibody and DAB chromogen development. Brown staining is detected in neuronal cell bodies and processes, consistent with synapse-associated protein 102 localization, with hematoxylin nuclear counterstain (blue).



Western blot analysis of DLG3/SAP102 expression. Rat brain tissue lysate (lane 1) and mouse brain tissue lysate (lane 2) were separated by SDS-PAGE and probed with anti-DLG3/SAP102 antibody. A specific immunoreactive band is detected at approximately 100 kDa in both samples, corresponding to DLG3/SAP102. The predicted molecular weight of DLG3/SAP102 based on amino acid sequence is approximately 90 kDa; the observed higher apparent molecular weight is consistent with known properties of MAGUK scaffold proteins, which often exhibit slower migration on SDS-PAGE due to their extended domain structure and post-translational modifications.

Description

SAP102 antibody targets synapse-associated protein 102, encoded by the DLG3 gene. Synapse-associated protein 102 is a member of the membrane-associated guanylate kinase (MAGUK) family of scaffold proteins, which organize signaling complexes at neuronal synapses. SAP102 contains multiple protein interaction domains, including PDZ, SH3, and guanylate kinase-like domains, enabling it to anchor receptors, ion channels, and signaling molecules within the postsynaptic density.

Functionally, synapse-associated protein 102 plays an important role in synaptic development and plasticity by regulating the trafficking and stabilization of glutamate receptors, particularly NMDA receptor subunits. SAP102 is especially prominent during early brain development, where it contributes to synapse formation and maturation. By coordinating multiprotein assemblies at excitatory synapses, SAP102 influences synaptic strength and signal transduction. A SAP102 antibody supports studies focused on synaptic organization, receptor trafficking, and neuronal signaling pathways.

DLG3 expression is enriched in the central nervous system, with strong expression in cortical and hippocampal neurons. Subcellular localization is primarily postsynaptic, where SAP102 associates with the postsynaptic density, although distribution can vary depending on neuronal activity and developmental stage. Compared with other MAGUK family members, SAP102 shows a more dynamic association with synaptic membranes, consistent with its role in synapse remodeling during development.

From a disease relevance perspective, altered SAP102 expression or function has been linked to neurodevelopmental and cognitive disorders, where disrupted synaptic scaffolding can impair neuronal communication. At the molecular level, synapse-associated protein 102 functions as a non-enzymatic adaptor that integrates structural and signaling components rather than directly catalyzing reactions. SAP102 antibody reagents support research applications examining synaptic architecture, neurodevelopment, and postsynaptic signaling networks, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the SAP102 antibody should be determined by the researcher.

Immunogen

A recombinant human protein corresponding to amino acids E749-L817 was used as the immunogen for the SAP102 antibody.

Storage

After reconstitution, the SAP102 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.