

SHANK3 Antibody (Center)
Rabbit Polyclonal Antibody
Catalog # ABV10918**Specification**

SHANK3 Antibody (Center) - Product Information

Application	IHC, WB
Primary Accession	Q9BYB0
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG1
Calculated MW	184667

SHANK3 Antibody (Center) - Additional Information

Positive Control	Western Blot: 3T3 cell Lysate
Application & Usage	IHC: Human brain tissue Western Blot: 1 µg/ml, IHC: 2.5 µg/ml, ELISA. However, the optimal conditions should be determined individually.

Other Names

SH3 and multiple ankyrin repeat domains 3, ProSAP2, PSAP2, SPANK-2, Proline-rich synapse-associated protein 2

Target/Specificity

SHANK3

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (1 mg/ml) in 1X PBS containing 0.02 % sodium azide.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions**Precautions**

SHANK3 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

SHANK3 Antibody (Center) - Protein Information

Name SHANK3

Synonyms KIAA1650, PROSAP2, PSAP2

Function

Major scaffold postsynaptic density protein which interacts with multiple proteins and complexes to orchestrate the dendritic spine and synapse formation, maturation and maintenance. 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 through the interaction with Arp2/3 and WAVE1 complex as well as the promotion of the F-actin clusters. By way of this control of actin dynamics, participates in the regulation of developing neurons growth cone motility and the NMDA receptor-signaling. Also modulates GRIA1 exocytosis and GRM5/MGLUR5 expression and signaling to control the AMPA and metabotropic glutamate receptor-mediated synaptic transmission and plasticity. May be required at an early stage of synapse formation and be inhibited by IGF1 to promote synapse maturation.

Cellular Location

Cytoplasm. Postsynaptic density. Cell projection, dendritic spine. Note=In neuronal cells, extends into the region subjacent to the postsynaptic density (PSD).

Tissue Location

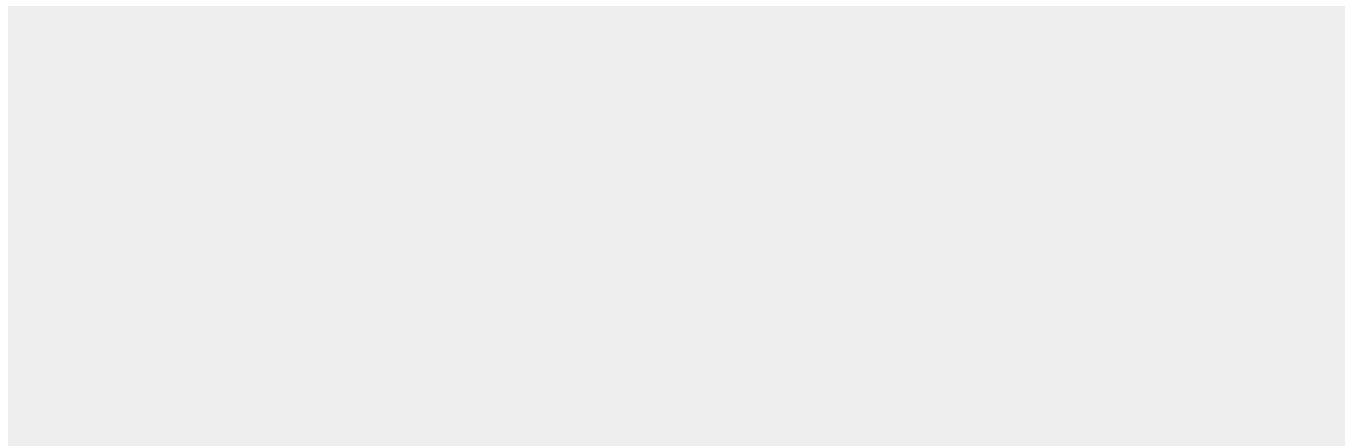
Expressed in the cerebral cortex and the cerebellum

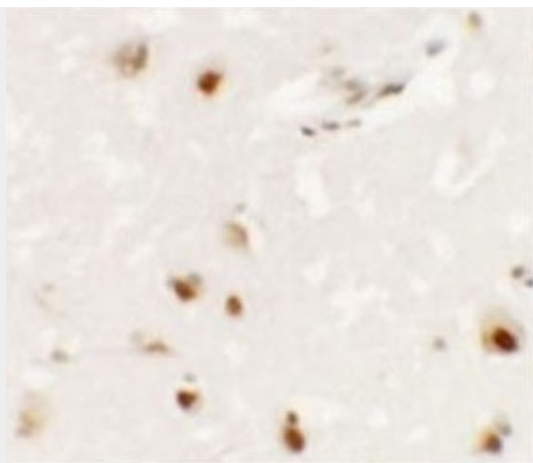
SHANK3 Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

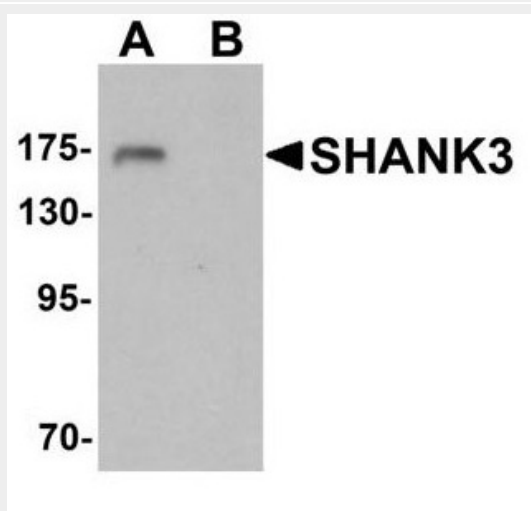
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

SHANK3 Antibody (Center) - Images





Immunohistochemistry of SHANK3 in human brain tissue with SHANK3 antibody at 2.5µg/mL.



Western blot analysis of SHANK3 in 3T3 cell lysate with SHANK3 antibody at 1 µg/ml in (A) the absence and (B) the presence of blocking peptide.

SHANK3 Antibody (Center) - Background

SH3 and multiple ankyrin repeat domains 3 (SHANK3), a member of the Shank gene family, plays a role in synapse formation and dendritic spine maturation. Shank proteins (Shank 1-3) containing PDZ domains are scaffold proteins of the postsynaptic density (PSD) that connect neurotransmitter receptors and ion channels proteins to the actin cytoskeleton and G-protein-coupled signaling pathways. 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. Mutations of SHANK3 are a cause of autism spectrum disorder (ASD) and the neurological symptoms of 22q13.3 deletion syndrome.