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SYNPO Antibody
Catalog # ASC11234

Specification

SYNPO Antibody - Product Information

Application	**WB, IHC-P, IF, E**
Primary Accession	Q8N3V7
Other Accession	NP_001159680, 261278297
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 75, 99, 102 kDa** **Observed: 95 kDa KDa**
Application Notes	**SYNPO antibody can be used for detection of SYNPO by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.**

SYNPO Antibody - Additional Information

Gene ID **11346**

Target/Specificity
SYNPO; At least three isoforms of SYNPO are known to exist; this antibody will detect all three isoforms. SYNPO antibody is predicted to not cross-react with other SYNPO family member proteins.

Reconstitution & Storage
SYNPO antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
SYNPO Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

SYNPO Antibody - Protein Information

Name SYNPO

Synonyms KIAA1029

Function
Actin-associated protein that may play a role in modulating actin-based shape and motility of dendritic spines and renal podocyte foot processes. Seems to be essential for the formation of spine apparatuses in spines of telencephalic neurons, which is involved in synaptic plasticity (By

similarity).

Cellular Location
Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:Q8CC35}. Cell junction, tight junction {ECO:0000250|UniProtKB:Q8CC35}. Perikaryon {ECO:0000250|UniProtKB:Q8CC35}. Cell projection, dendritic spine {ECO:0000250|UniProtKB:Q8CC35}. Postsynaptic density {ECO:0000250|UniProtKB:Q8CC35}. Synapse {ECO:0000250|UniProtKB:Q8CC35} Cytoplasm, cytosol. Note=Localized at the tight junction of cells. In brain, localized to the postsynaptic densities and in the perikarya. Associated with dendritic spines of a subset of synapses. {ECO:0000250|UniProtKB:Q8CC35}

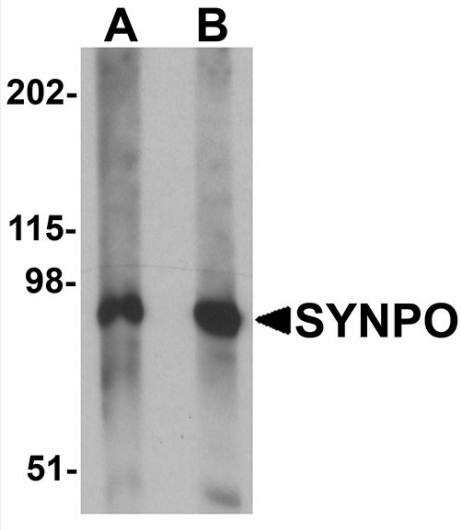
Tissue Location
Expressed in cerebral cortex.

SYNPO Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SYNPO Antibody - Images



Western blot analysis of SYNPO in rat brain tissue lysate with SYNPO antibody at (A) 1 and (B) 2 µg/mL.

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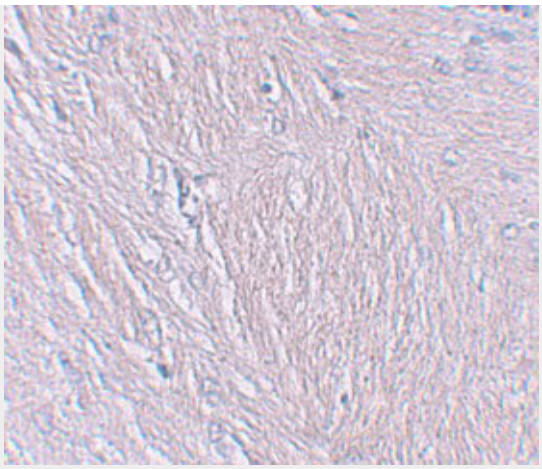
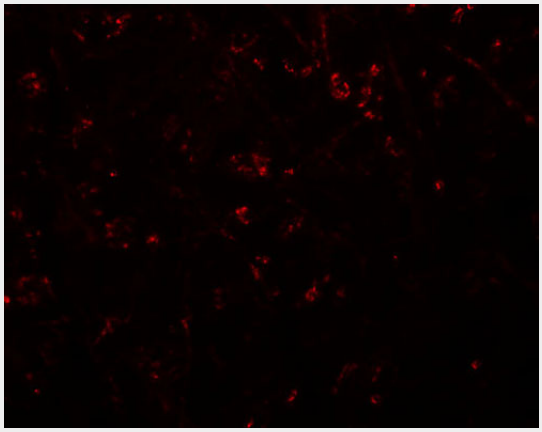


Immunohistochemistry of SYNPO in human brain tissue with SYNPO antibody at 2.5 µg/mL.



Immunofluorescence of SYNPO in human brain tissue with SYNPO antibody at 20 µg/mL.

SYNPO Antibody - Background

SYNPO Antibody: SYNPO, also known as synaptopodin, is an actin-associated protein in telencephalic dendrites and renal podocytes. SYNPO is tightly associated with the dendritic spine apparatus, and mice lacking the SYNPO gene lack the apparatus. These SYNPO-null mice also demonstrate an impaired ability to express long-term potentiation as well as deficits in spatial memory tasks, indicating that SYNPO is involved in the regulation of synaptic plasticity. Recent studies suggest that SYNPO is linked to neuronal calcium stores and plays a role in the calcium store-associated ability of neurons to undergo long-term plasticity.

SYNPO Antibody - References

Mundel P, Heid HW, Mundel TM, et al. Synaptopodin: an actin-associated protein in telencephalic dendrites and renal podocytes. J. Cell Biol. 1997; 139:193-204.
Deller T, Merten T, Roth SU, et al. Actin-associated protein synaptopodin in the rat hippocampal formation: localization in the spine neck and close association with the spine apparatus of principal neurons. J. Compl. Neurol. 2000; 418:164-81.
Deller T, Korte M, Chabanis S, et al. Synaptopodin-deficient mice lack a spine apparatus and show deficits in synaptic plasticity. Proc. Natl. Acad. Sci. USA 2003; 100:10494-9.
Jedlicka P, Schwarzacher SW, Winkels R, et al. Impairment of in vivo theta-burst long-term potentiation and network excitability in the dentate gyrus of synaptopodin-deficient mice lacking the spine apparatus and the cisternal organelle. Hippocampus 2009; 19:130-40.