

Anti-Synaptophysin Antibody [JE42-51]

HA721599



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 34 kDa
Clone number:	JE42-51

Description: Synaptophysin, also known as the major synaptic vesicle protein p38, is a protein that in humans is encoded by the SYP gene. The gene is located on the short arm of X chromosome (Xp11.23-p11.22). It is 12,406 bases in length and lies on the minus strand. The encoded protein has 313 amino acids with a predicted molecular weight of 33.845 kDa. The protein is a synaptic vesicle glycoprotein with four transmembrane domains weighing 38kDa. It is present in neuroendocrine cells and in virtually all neurons in the brain and spinal cord that participate in synaptic transmission. It acts as a marker for neuroendocrine tumors, and its ubiquity at the synapse has led to the use of synaptophysin immunostaining for quantification of synapses. The exact function of the protein is unknown: it interacts with the essential synaptic vesicle protein synaptobrevin, but when the synaptophysin gene is experimentally inactivated in animals, they still develop and function normally. Recent research has shown, however, that elimination of synaptophysin in mice creates behavioral changes such as increased exploratory behavior, impaired object novelty recognition, and reduced spatial learning. This gene has been implicated in X linked intellectual disability. Using immunohistochemistry, synaptophysin can be demonstrated in a range of neural and neuroendocrine tissues, including cells of the adrenal medulla and pancreatic islets. As a specific marker for these tissues, it can be used to identify tumours arising from them, such as neuroblastoma, retinoblastoma, pheochromocytoma, carcinoid, small-cell carcinoma, medulloblastoma and medullary thyroid carcinoma, among others. Diagnostically, it is often used in combination with chromogranin A.

Immunogen:	Recombinant protein within Human Synaptophysin aa 214-313 / 313.
Positive control:	Human brain tissue, mouse brain tissue, rat brain tissue.
Subcellular location:	Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane
Database links:	SwissProt: P08247 Human Q62277 Mouse P07825 Rat
Recommended Dilutions:	
WB	1:1,000
IHC-P	1:1,000
Storage Buffer:	1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Shipped at 4°C. Store at +4°C short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20°C long term.
Purity:	Protein A affinity purified.

Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

Technical:0086-571-89986345

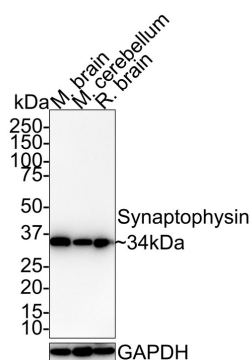
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Images

Fig1: Western blot analysis of Synaptophysin on different lysates with Rabbit anti-Synaptophysin antibody (HA721599) at 1/1,000 dilution.

Lane 1: Mouse brain tissue lysate
Lane 2: Mouse cerebellum tissue lysate
Lane 3: Rat brain tissue lysate



Lysates/proteins at 40 µg/Lane.

Predicted band size: 34 kDa
Observed band size: 34 kDa

Exposure time: 2 minutes;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721599) at 1/1,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:100,000 dilution was used for 1 hour at room temperature.

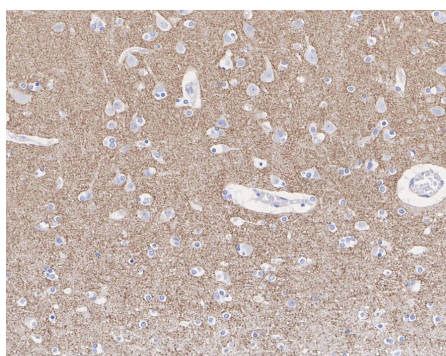


Fig2: Immunohistochemical analysis of paraffin-embedded human brain tissue with Rabbit anti-Synaptophysin antibody (HA721599) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA721599) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

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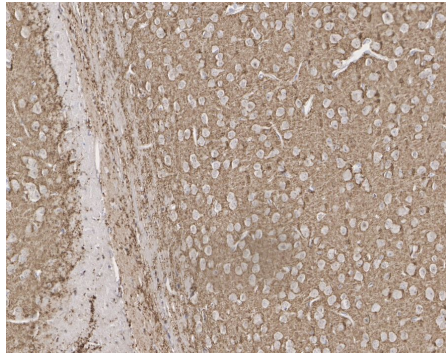


Fig3: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-Synaptophysin antibody (HA721599) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA721599) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

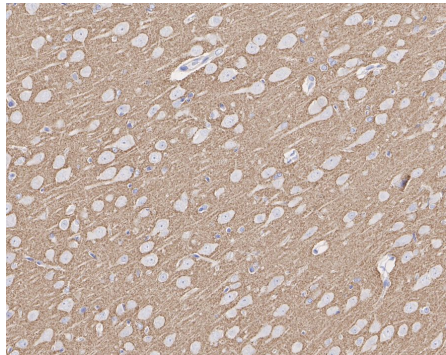


Fig4: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-Synaptophysin antibody (HA721599) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA721599) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Im S et al. Aberrant synaptophysin expression in classic Hodgkin lymphoma. *Diagn Pathol.* 2022 Nov
2. Uhlig R et al. Synaptophysin and chromogranin A expression analysis in human tumors. *Mol Cell Endocrinol.* 2022 Sep

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