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CASPR Rabbit pAb

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Catalog # AP54391

Product Information

Primary Accession	P78357
Reactivity	Human
Predicted	Mouse, Rat, Dog, Pig, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	156267
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CASPR/Neurexin4
Epitope Specificity	151-250/1384
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane.
SIMILARITY	Belongs to the neurexin family.
SUBUNIT	Interacts with contactin in cis form.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Neurexins comprise a family of neuronal cell surface proteins, which include neurexin I (NRXN1), neurexin II (NRXN2), neurexin III (NRXN3) and CASPR (neurexin IV). Neurexins I-III are expressed as □and ∫ isoforms. The □ isoforms are made of three cassettes, which contain two LNS (laminin A, neurexins, sex hormone-binding)-domains separated by EGF domains, followed by a transmembrane region and a 55 amino acid cytoplasmic C-terminal. The □isoforms bind to neurexophilins at the second LNS site, and to the excitatory neurotoxin □-latrotoxin. The ∫ isoforms have only one LNS-domain, bind to neuroligins and play a role in the formation and remodeling of synapses. CASPR (for contactin-associated protein 1, also designated paranodin in mouse), contains an extracellular domain similar to the other three neurexins, and binds to the surface glycoprotein contactin. CASPR and the closely related CASPR2, a mammalian homolog of Drosophila neurexin IV (Nrx-IV), demarcate distinct subdomains in myelinated axons. Specifically, CASPR exists at the paranodal junctions, while CASPR2 co-localizes with Shaker-like K+ channels in the juxtaparanodal region. CASPR may play a role in the communication of glial cells and neurons during development.

Additional Information

Gene ID	8506
Other Names	Contactin-associated protein 1, Caspr, Caspr1, Neurexin IV, Neurexin-4, p190,

	CNTNAP1, CASPR, NRXN4
Target/Specificity	Predominantly expressed in brain. Weak expression detected in ovary, pancreas, colon, lung, heart, intestine and testis.
Dilution	ICC/IF=1:100-500,Flow-Cyt=3ug/Test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

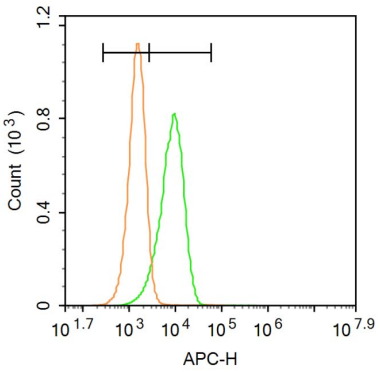
Name	CNTNAP1
Synonyms	CASPR, NRXN4
Function	Required, with CNTNAP2, for radial and longitudinal organization of myelinated axons. Plays a role in the formation of functional distinct domains critical for saltatory conduction of nerve impulses in myelinated nerve fibers. Demarcates the paranodal region of the axo-glial junction. In association with contactin involved in the signaling between axons and myelinating glial cells.
Cellular Location	Membrane; Single-pass type I membrane protein. Cell junction, paranodal septate junction {ECO:0000250|UniProtKB:O54991}
Tissue Location	Predominantly expressed in brain. Weak expression detected in ovary, pancreas, colon, lung, heart, intestine and testis

Background

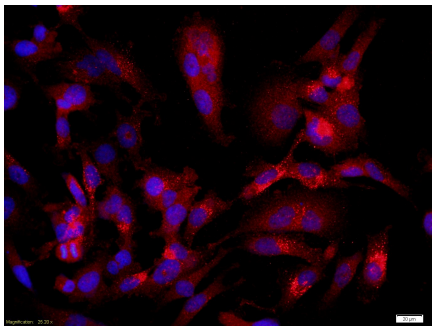
Neurexins comprise a family of neuronal cell surface proteins, which include neurexin I (NRXN1), neurexin II (NRXN2), neurexin III (NRXN3) and CASPR (neurexin IV). Neurexins I-III are expressed as □and ∫ isoforms. The □isoforms are made of three cassettes, which contain two LNS (laminin A, neurexins, sex hormone-binding)-domains separated by EGF domains, followed by a transmembrane region and a 55 amino acid cytoplasmic C-terminal. The □isoforms bind to neurexophilins at the second LNS site, and to the excitatory neurotoxin □-latrotoxin. The ∫ isoforms have only one LNS-domain, bind to neuroligins and play a role in the formation and remodeling of synapses. CASPR (for contactin-associated protein 1, also designated paranodin in mouse), contains an extracellular domain similar to the other three neurexins, and binds to the surface glycoprotein contactin. CASPR and the closely related CASPR2, a mammalian homolog of Drosophila neurexin IV (Nrx-IV), demarcate distinct subdomains in myelinated axons. Specifically, CASPR exists at the paranodal junctions, while CASPR2 co-localizes with Shaker-like K+ channels in the juxtaparanodal region. CASPR may play a role in the communication of glial cells and neurons during development.

Images

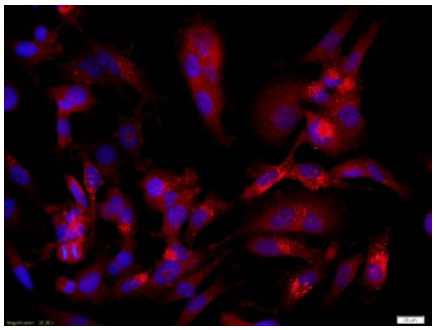
Blank control (Black line): HUVEC (Black).
Primary Antibody (green line): Rabbit CASPR antibody (AP54391)
Dilution: 1 μg /10^6 cells;
Isotype Control Antibody (orange line): Rabbit IgG .
Secondary Antibody (white blue line): Goat anti-rabbit IgG-AF647
Dilution: 1 μg /test.



Protocol
The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.



Tissue/cell: human glioma cells(U251 cells);4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-CASPR Polyclonal Antibody, Unconjugated(AP54391) 1:200, overnight at 4°C; The secondary antibody was Goat Anti-Rabbit IgG, Cy3 conjugated(AP54391-Cy3)used at 1:200 dilution for 40 minutes at 37°C. DAPI(5ug/ml,blue,C-0033) was used to stain the cell nuclei



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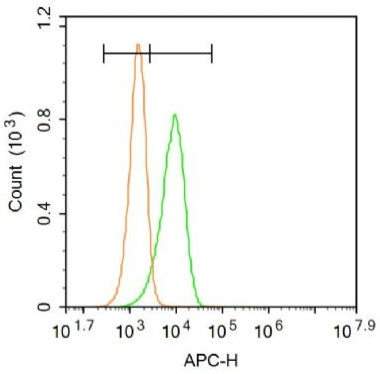

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