

CASPR4 (G-15): sc-160207

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). CASPR4 (contactin associated protein-like 4), also known as CNTNAP4, is a 1,308 amino acid single-pass type I membrane protein belonging to the neurexin family. Possibly a cell adhesion protein, CASPR4 is expressed in multiple regions of the brain such as olfactory bulb, hippocampus and deep cerebellar nuclei, with highest expression found in spinal cord, substantia nigra and subthalamic nucleus. CASPR4 is expressed at moderate levels in fetal brain, with low expression in adult testis. Encoded by a gene that maps to human chromosome 16q23.1, CASPR4 contains four laminin G-like domains, a F5/8 type C domain, two EGF-like domains and a single fibrinogen C-terminal domain.

REFERENCES

1. Bellen, H.J., et al. 1998. Neurexin IV, CASPR and paranodin—novel members of the neurexin family: encounters of axons and glia. *Trends Neurosci.* 21: 444-449.
2. Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XIX. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 7: 347-355.
3. Spiegel, I., et al. 2002. CASPR3 and CASPR4, two novel members of the CASPR family are expressed in the nervous system and interact with PDZ domains. *Mol. Cell. Neurosci.* 20: 283-297.
4. Girault, J.A., et al. 2003. Transmembrane scaffolding proteins in the formation and stability of nodes of Ranvier. *Biol. Cell* 95: 447-452.
5. Traut, W., et al. 2006. New members of the neurexin superfamily: multiple rodent homologues of the human CASPR5 gene. *Mamm. Genome* 17: 723-731.

CHROMOSOMAL LOCATION

Genetic locus: CNTNAP4 (human) mapping to 16q23.1; Cntnap4 (mouse) mapping to 8 E1.

SOURCE

CASPR4 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal extracellular domain of CASPR4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-160207 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

CASPR4 (G-15) is recommended for detection of CASPR4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other CASPR family members.

CASPR4 (G-15) is also recommended for detection of CASPR4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CASPR4 siRNA (h): sc-93335, CASPR4 siRNA (m): sc-142022, CASPR4 shRNA Plasmid (h): sc-93335-SH, CASPR4 shRNA Plasmid (m): sc-142022-SH, CASPR4 shRNA (h) Lentiviral Particles: sc-93335-V and CASPR4 shRNA (m) Lentiviral Particles: sc-142022-V.

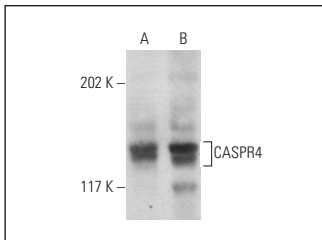
Molecular Weight of CASPR4: 145 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat hippocampus extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CASPR4 (G-15): sc-160207. Western blot analysis of CASPR4 expression in rat hippocampus (A) and mouse brain (B) tissue extracts.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.