

# CASPR2 (H-10): sc-398454

## BACKGROUND

CASPR (for contactin-associated protein, also designated Paranodin) is a transmembrane glycoprotein of the neurexin superfamily that is highly enriched in regions of myelinated axons. The axons of myelinated nerves in the adult nervous system possess specialized subcellular structures essential for efficient and rapid action potential propagation. CASPR and the closely related molecule CASPR2, a mammalian homolog of *Drosophila* Neurexin IV (Nrx-IV), demarcate distinct subdomains in myelinated axons. While CASPR is present at the paranodal junctions, CASPR2 is precisely colocalized with Shaker-like K<sup>+</sup> channels in the juxtaparanodal region. CASPR2 specifically associates with Kv1.1, Kv1.2, and their Kvβ2 subunit. CASPR family members may play a role in the local differentiation of the axon into distinct functional subdomains.

## REFERENCES

- Einheber, S., et al. 1997. The axonal membrane protein CASPR, a homologue of neurexin IV, is a component of the septate-like paranodal junctions that assemble during myelination. *J. Cell Biol.* 139: 1495-1506.
- Waxman, S.G. 1997. Axon-glia interactions: building a smart nerve fiber. *Curr. Biol.* 7: R406-R410.
- 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.
- Missler, M. and Sudhof, T.C. 1998. Neurexins: three genes and 1001 products. *Trends Genet.* 14: 20-26.
- Poliak, S., et al. 1999. CASPR2, a new member of the neurexin superfamily, is localized at the juxtaparanodes of myelinated axons and associates with K<sup>+</sup> channels. *Neuron* 24: 1037-1047.

## CHROMOSOMAL LOCATION

Genetic locus: CNTNAP2 (human) mapping to 7q35; Cntnap2 (mouse) mapping to 6 B2.2.

## SOURCE

CASPR2 (H-10) is a mouse monoclonal antibody raised against amino acids 461-560 mapping within an N-terminal extracellular domain of CASPR2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CASPR2 (H-10) is available conjugated to agarose (sc-398454 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398454 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398454 PE), fluorescein (sc-398454 FITC), Alexa Fluor® 488 (sc-398454 AF488), Alexa Fluor® 546 (sc-398454 AF546), Alexa Fluor® 594 (sc-398454 AF594) or Alexa Fluor® 647 (sc-398454 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398454 AF680) or Alexa Fluor® 790 (sc-398454 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

CASPR2 (H-10) is recommended for detection of CASPR2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for CASPR2 siRNA (h): sc-41917, CASPR2 siRNA (m): sc-41918, CASPR2 shRNA Plasmid (h): sc-41917-SH, CASPR2 shRNA Plasmid (m): sc-41918-SH, CASPR2 shRNA (h) Lentiviral Particles: sc-41917-V and CASPR2 shRNA (m) Lentiviral Particles: sc-41918-V.

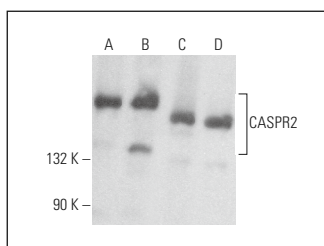
Molecular Weight of CASPR2: 148 kDa.

Positive Controls: mouse cerebellum extract: sc-2403, mouse brain extract: sc-2253 or mouse hypothalamus extract: sc-364242.

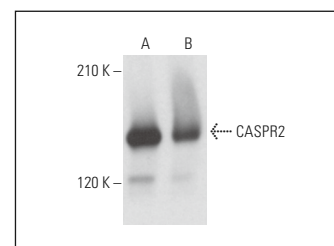
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



CASPR2 (H-10): sc-398454. Western blot analysis of CASPR2 expression in human cerebral cortex (A), mouse cerebellum (B), mouse brain (C) and mouse hypothalamus (D) tissue extracts.



CASPR2 (H-10): sc-398454. Western blot analysis of CASPR2 expression in human cerebral cortex (A) and human cerebellum (B) tissue extracts.

## STORAGE

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

## RESEARCH USE

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

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