

#3731 Store at -20°C

Caspr2 Antibody

100 µl
 (10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R	150 kDa	Rabbit**

Background: Contactin-associated protein 2 (Caspr2) is a type I transmembrane protein and member of the neuixin superfamily that mediates nervous system cell-cell interactions through the Neurexin IV-Caspr-Paranodin (NCP) complex (1). A multiprotein complex consisting of TAG-1, Caspr2, K⁺ channel, PSD95 and protein 4.1B mediates the molecular interactions at the juxtaparanodal region of myelinated axons, with homophilic TAG-1 interactions mediating the binding of this complex to glia (2,3).

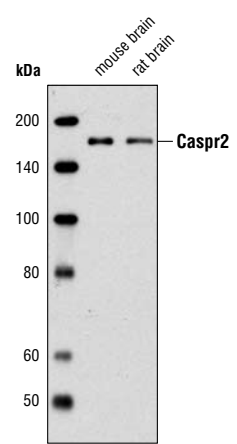
Caspr2 protein localizes to juxtaparanodal regions of myelinated axons where it forms a *cis*-complex with the immunoglobulin-like cell adhesion molecule TAG-1. Caspr2 also binds to Shaker K⁺ channels Kv1.1, Kv1.2, and their Kvβ2 subunit. A PDZ domain at the Caspr2 carboxy terminus mediates the Caspr2-K⁺ channel association. Caspr2 is required for proper K⁺ channel localization, as Caspr2 deletion causes the redistribution of channels along the internodes (1-3). Furthermore, Caspr2 binds to protein 4.1B and connects the protein complex to the axonal cytoskeleton (4). Mutations in the Caspr2 gene have been linked to focal epilepsy, cortical dysplasia and Gilles de la Tourette syndrome (5,6).

Specificity/Sensitivity: Caspr2 Antibody detects endogenous levels of total Caspr2 protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide surrounding Glu1320 of human Caspr2. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Poliak, S. et al. (1999) *Neuron* 24, 1037-47.
- (2) Poliak, S. et al. (2003) *J Cell Biol* 162, 1149-60.
- (3) Traka, M. et al. (2003) *J Cell Biol* 162, 1161-72.
- (4) Denisenko-Nehrbass, N. et al. (2003) *Eur J Neurosci* 17, 411-6.
- (5) Verkerk, A.J. et al. (2003) *Genomics* 82, 1-9.
- (6) Strauss, K.A. et al. (2006) *N Engl J Med* 354, 1370-7.



Western blot analysis of extracts from mouse and rat brain using Caspr2 Antibody.

Entrez-Gene ID #26047
Swiss-Prot Acc. # Q9UHC6

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

***Species cross-reactivity is determined by western blot.**

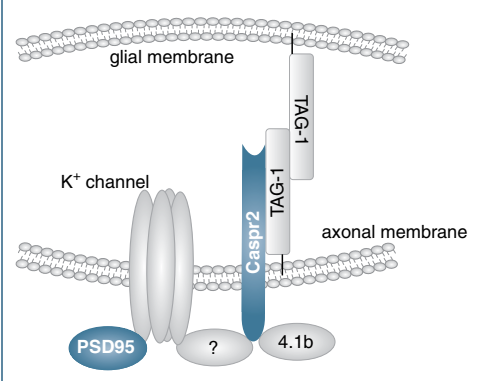
****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western Blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.



IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.