

**Caspr2 (D6S10) Rabbit mAb**

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	150	Rabbit IgG	#Q9UHC6	26047

**Product Usage Information****Application**

Western Blotting

**Dilution**

1:1000

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

Caspr2 (D6S10) Rabbit mAb recognizes endogenous levels of total Caspr2 protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gln1040 of human Caspr2 protein.

**Background**

**Contactin-associated protein 2 (Caspr2)** is a type I transmembrane protein and member of the neurexin 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<sup>+</sup> 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<sup>+</sup> channels Kv1.1, Kv1.2, and their Kvβ2 subunit. A PDZ domain at the Caspr2 carboxy terminus mediates the Caspr2-K<sup>+</sup> channel association. Caspr2 is required for proper K<sup>+</sup> 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).

**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.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat

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