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Store at -20C
#5512

Plexin A3 (D2G12) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 207	Source/Isotype: Rabbit IgG	UniProt ID: #P51805	Entrez-Gene Id: 55558
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Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

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

Plexin A3 (D2G12) Rabbit mAb detects endogenous levels of total Plexin A3 protein. Plexin A3 (D2G12) Rabbit mAb may cross-react with other family members.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide surrounding Val440 of human Plexin A3.

Background

Class 3 secreted semaphorin (Sema3A) is a chemorepellent that acts upon a wide variety of axons. As such, it induces a dramatic redistribution and depolymerization of actin filaments that results in growth cone collapse. Plexins are single membrane-spanning signaling proteins encompassing Plexin A1, A2, A3, and A4. Plexins form a complex with neuropilin-1 and -2 and the cell adhesion protein L1 to form a functional semaphorin receptor (1,2). The GTPase Rnd1 binds to the cytoplasmic domain of Plexin A1 to trigger cytoskeletal collapse. In contrast, the GTPase RhoD blocks Rnd1-mediated Plexin A1 activation and repulsion of sympathetic axons by Sema3A (3).

Both Plexin A3 and A4 mediate the responses to class 3 semaphorins in sensory and sympathetic neurons. In particular, Plexin A4 is responsible for signaling of Sema 3A via neuropilin-1, while Plexin A3 is responsible for signaling of Sema 3F via neuropilin-2 (4).

Background References

1. Pasterkamp, R.J. and Kolodkin, A.L. (2003) *Curr Opin Neurobiol* 13, 79-89.
2. Takahashi, T. and Strittmatter, S.M. (2001) *Neuron* 29, 429-39.
3. Zanata, S.M. et al. (2002) *J Neurosci* 22, 471-7.
4. Yaron, A. et al. (2005) *Neuron* 45, 513-23.

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 BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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