Mouse RGM-B Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF3597

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse RGM-B in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant mouse (rm) RGM-A and rmRGM-C is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse RGM-B Gly49-Ser414 Accession # Q7TQ33
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

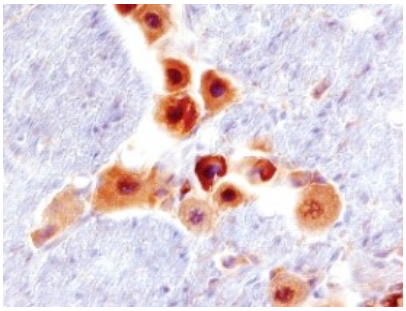
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse RGM-B (Catalog # 3597-RG)
Flow Cytometry	2.5 µg/10^6 cells	Neuro-2A mouse neuroblastoma cell line
Immunohistochemistry	5-15 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA

Immunohistochemistry



RGM-B in Mouse Brain. RGM-B was detected in perfusion fixed frozen sections of mouse brain (trigeminal ganglia) using 1.7 µg/mL Sheep Anti-Mouse RGM-B Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3597) overnight at 4 °C. Tissue was stained with the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

RGM-B, also known as DRAGON, is a 40 kDa member of the repulsive guidance molecule (RGM) family of GPI-linked neuronal and muscle membrane proteins (1, 2). It is synthesized as a preproprotein that consists of a 48 amino acid (aa) signal sequence, a 367 aa mature region, and a 21 aa C-terminal prosegment (3). RGM-B contains two potential N-linked glycosylation sites and an abbreviated von Willebrand factor domain. Potential proteolytic cleavage within the VWF domain is supported by R&D Systems' in house data (4). Within the region following the VWF domain, mouse RGM-B shares 49% and 43% aa sequence identity with RGM-A and RGM-C, respectively. It shares 90%, 79%, 92%, and 93% aa sequence identity with bovine, chicken, human, and rhesus macaque RGM-B, respectively. RGM-B is expressed in the developing and adult nervous system, particularly in the dorsal root ganglia and mantle layer of the spinal cord (3-5). In mouse, it shows a complementary, non-overlapping distribution with RGM-A (2-5). RGM-B is also expressed in fetal and adult enteric ganglia and in postnatal intestinal epithelium (6). RGM-B expression has been detected in neuronal cell bodies and proximal axonal segments (4) but is also present on the cell surface, where it interacts homophilically and mediates neuronal adhesion (3). RGM-B additionally functions as a BMP coreceptor. It directly binds BMP-2 and -4 but not other TGF-β family proteins (7). RGM-B associates with BMP type I (ALK-2, -3, -6) and type II (Activin RIIA, Activin RIIB) receptors and enhances BMP signaling (7).

References:

1. Monnier, P.P. *et al.* (2002) Nature **419**:392.
2. Schmidtmer, J. and D. Engelkamp (2004) Gene Exp. Patterns **4**:105.
3. Samad, T.A. *et al.* (2004) J. Neurosci. **24**:2027.
4. Niederkofler, V. *et al.* (2004) J. Neurosci. **24**:808.
5. Oldekamp, J. *et al.* (2004) Gene Exp. Patterns **4**:283.
6. Metzger, M. *et al.* (2005) Dev. Dyn. **234**:169.
7. Samad, T.A. *et al.* (2005) J. Biol. Chem. **280**:14122.

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