Mouse RGM-B Biotinylated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: BAF3597

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse RGM-B in Western blots. In Western blots, approximately 5% cross-reactivity with recombinant mouse (rm) RGM-C is observed and less than 2% cross-reactivity with rmRGM-A 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 BSA as a carrier protein. See Certificate of Analysis for details.

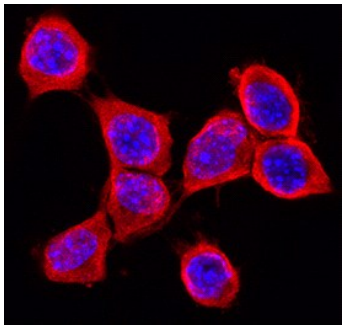
APPLICATIONS

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	0.25 µg/10^6 cells	Neuro-2A mouse neuroblastoma cell line
Immunocytochemistry	5-15 µg/mL	See Below

DATA

Immunocytochemistry



RGM-B in Neuro-2A Mouse Cell Line. RGM-B was detected in immersion fixed Neuro-2A mouse neuroblastoma cell line using Sheep Anti-Mouse RGM-B Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF3597) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Streptavidin (red; Catalog # NL999) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

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.
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.

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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