

DESCRIPTION

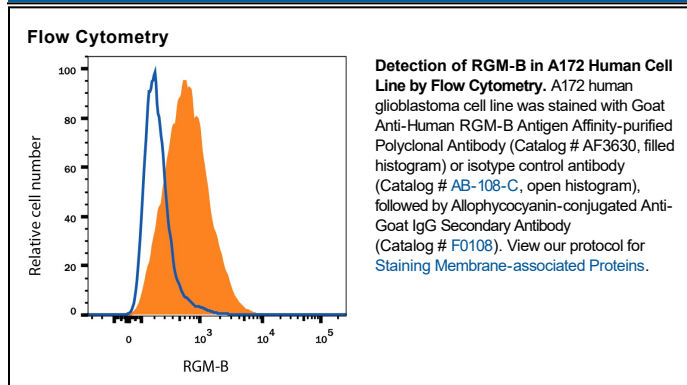
Species Reactivity	Human
Specificity	Detects human RGM-B in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 50% cross-reactivity with recombinant mouse RGM-B is observed and less than 1% cross-reactivity with recombinant human (rh) RGM-A and rhRGM-C is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human RGM-B isoform 1 Gly46-SerSer411 Accession # Q6NW40
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 Human RGM-B (Catalog # 3630-RG)
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



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. <ul style="list-style-type: none"> ● 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 45 amino acid (aa) signal sequence, a 368 aa mature region, and a 24 aa C-terminal prosegment (3). RGM-B contains an RGD motif, two potential N-linked glycosylation sites, and an abbreviated von Willebrand factor domain. There is a potential proteolytic cleavage site within the VWF domain (4). Alternative splicing may generate isoforms of RGM-B with N-terminal extensions or truncation following the VWF domain. Mature human RGM-B shares 52% and 36% aa sequence identity with the comparable regions of RGM-A and RGM-C, respectively. It shares 98%, 92%, 92%, and 78% aa sequence identity with macaque, mouse, bovine, and chicken 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 RII B) 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.