

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse RGM-A in Western blots. In Western blots, approximately 15% cross-reactivity with recombinant human RGM-A is observed and 5% cross-reactivity with recombinant chicken RGM is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse RGM-A Cys48-Gly421 Accession # Q6PCX7
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 Repulsive Guidance Molecule A/RGM-A (Catalog # 2458-RG)
Immunohistochemistry	5-15 µg/mL	Immersion fixed frozen sections of mouse embryo (E13.5-15.5)

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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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

Mouse repulsive guidance molecule (RGM-A) is a 33 kDa GPI-linked member of an expanding RGM-related family of neuronal and muscle-expressed membrane proteins (1). It is synthesized as a 454 amino acid (aa) preproprotein that contains a 47 aa signal sequence, a 122 aa N-terminal prosegment, a 258 mature region and a 27 aa C-terminal prosegment (2, 3). The N-terminal prosegment contains an RGD tripeptide and the molecule's only two potential N-linked glycosylation sites. The mature segment shows an abbreviated von Willebrand factor domain. Proteolytic processing occurs at an aspartic acid-proline bond, creating a predicted 32 kDa mature region (2). The mature region of mouse RGM-A is 93% and 87% aa identical to human and chick mature region RGM-A, respectively. When compared to mouse RGMb and c, the mature region of mouse RGM-A shows 77% and 76% aa identity, respectively (2, 3). Recombinant chick RGM has been reported to induce collapse of temporal but not nasal growth cones, and to repel temporal retinal axons *in vitro*. This suggests a role in the development of the retina-superior colliculus connection. In mice, however, this activity is not so obvious, and the function in this system is uncertain (3). Alternatively, in mice, RGM-A is said to be needed for neural tube closure (3), while chick RGM-A is reported to be responsible for the layered segmentation of entorhinal cortical projections to the hippocampus (4). The receptor for RGM is reported to be neogenin (5, 6).

References:

1. Samad, T.A. *et al.* (2004) *J. Neurosci.* **24**:2027.
2. Schmidtmer, J. *et al.* (2004) *Gene Expr. Patterns* **4**:105.
3. Niederkofler V. *et al.* (2004) *J. Neurosci.* **24**:808.
4. Brinks, H. *et al.* (2004) *J. Neurosci.* **24**:3862.
5. Rajagopalan S. *et al.* (2004) *Nat. Cell Biol.* **6**:756.
6. Matsunaga E. *et al.* (2004) *Nat. Cell Biol.* **6**:749.