Human RGM-A Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2459

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human RGM-A in direct ELISAs and Western blots. In direct ELISAs, less than 40% cross-reactivity with recombinant chicken RGM and recombinant mouse RGM-A is observed, and less than 1% cross-reactivity with recombinant human (rh) RGM-B and rhRGM-C is observed..
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human RGM-A Cys48-Gly422 Accession # Q96B86
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 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 Repulsive Guidance Molecule A/RGM-A (Catalog # 2459-RM)
Immunohistochemistry	10-25 µg/mL	See Below

DATA

Immunohistochemistry

RGM-A in Human Brain. RGM-A was detected in immersion fixed paraffin-embedded sections of human brain (spinal cord) using Goat Anti-Human RGM-A Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2459) at 15 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to the dorsal horn. View our protocol for Chromogenic IHC Staining of Paraffin-embedded 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

Human Repulsive Guidance molecule (RGM) 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 450 amino acid (aa) preproprotein that contains a 47 aa signal sequence, a 121 aa N-terminal prosegment, a 256 mature region and a 26 aa C-terminal prosegment (2). 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 human RGM-A has 88% and 93% aa identity to the chick and mouse mature region of RGM-A, respectively. When compared to human RGMb and c, the mature region of human RGM-A shows 58% and 54% aa identity, respectively. Recombinant chick RGM-A 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 mammals, however, this activity is not so evident, and thus its function in this system is uncertain (3). Alternatively, in mice, RGM-A is said to be needed for neural tube closure, and may play a role in entorhinal-hippocampal connections (3, 4). The receptor for RGM-A is reported to be neogenin (5, 6). RGM-A has also been shown to be a bone morphogenic protein co-receptor, able to bind both BMP-2 and BMP-4 (7).

References:

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