Human/Mouse RGM-C Biotinylated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: BAF3720

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse RGM-C in Western blots. In this format, approximately 10% cross-reactivity with recombinant human (rh) RGM-B is observed and less than 5% cross-reactivity with rhRGM-A is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human RGM-C isoform a (R&D Systems, Catalog # 3720-RG) Gln36-Asp400 Accession # Q6ZVN8
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 Human RGM-C (Catalog # 3720-RG) Recombinant Mouse RGM-C (Catalog # 3634-RG)

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-C, also known as hemojuvelin, is a member of the repulsive guidance molecule (RGM) family of GPI-linked neuronal and muscle membrane glycoproteins (1, 2). RGM-C is expressed in striated muscle and periportal hepatocytes (3 - 5). The protein undergoes partial cleavage intracellularly, resulting in a disulfide-linked dimer of the 14 kDa N-terminal and 33 kDa C-terminal portions (4, 6, 7). The N-terminal fragment contains an RGD motif, while the C-terminal fragment carries the GPI attachment site (4, 7). Two alternatively spliced isoforms lack either approximately half or the entire N-terminal fragment. Full length RGM-C can also be released from the cell and circulates in the blood (6, 8). RGM-C is disrupted in type 2A juvenile hemochromatosis, a hereditary iron homeostasis disorder characterized by excessive iron accumulation (5). In mouse, loss of RGM-C function results in decreased expression of the iron regulatory hormone hepicidin and increased iron deposition in liver, pancreas, and heart (5, 9). Membrane associated RGM-C upregulates hepicidin while soluble RGM-C downregulates hepicidin expression (8). This appears to be an iron-responsive regulatory system, as high blood iron levels reduce the amount of soluble RGM-C produced (8). RGM-C, similar to RGM-A, associates with neogenin (7). Disease-related point mutations can prevent internal RGM-C cleavage or its ability to interact with neogenin (6, 7). Experimental inflammatory conditions result in decreased RGM-C expression and increased hepicidin expression, although the two effects occur independently (5, 10). RGM-C also functions as a BMP coreceptor and enhances BMP-2 and BMP-4 signaling (11). In this context, RGM-C enhances the BMP-2 upregulation of hepatic hepicidin (11). Mature human RGM-C shares 89% amino acid (aa) sequence identity with mouse and rat RGM-C. It shares 49% and 44% aa sequence identity with human RGM-A and RGM-B, respectively.

References:

1. Papanikolaou, G. *et al.* (2004) Nat. Genet. **36**:77.
2. Schmidtmer, J. and D. Engelkamp (2004) Gene Exp. Patterns **4**:105.
3. Oldekamp, J. *et al.* (2004) Gene Exp. Patterns **4**:283.
4. Niederkofler, V. *et al.* (2004) J. Neurosci. **24**:808.
5. Niederkofler, V. *et al.* (2005) J. Clin. Invest. **115**:2180.
6. Kuninger, D. *et al.* (2006) J. Cell Sci. **119**:3273.
7. Zhang, A.S. *et al.* (2005) J. Biol. Chem. **280**:33885.
8. Lin, L. *et al.* (2005) Blood **106**:2884.
9. Huang, F.W. *et al.* (2005) J. Clin. Invest. **115**:2187.
10. Krijt, J. *et al.* (2004) Blood **104**:4308.
11. Babitt, J.L. *et al.* (2006) Nat. Genet. **38**:531.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449