# Mouse RGM-C/Hemojuvelin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3634

## DESCRIPTION

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| **Species Reactivity** | Mouse |
| **Specificity** | Detects mouse RGM-C in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant human RGM-C is observed and less than 5% cross-reactivity with recombinant mouse (rm) RGM-A and rmRGM-B is observed. |
| **Source** | Polyclonal Goat IgG |
| **Purification** | Antigen Affinity-purified |
| **Immunogen** | Mouse myeloma cell line NS0-derived recombinant mouse RGM-C isoform 1 (R&D Systems, Catalog # 3634-RG)<br>Gln33-Asp393 (Ile379Val)<br>Accession # Q7TQ32 |
| **Formulation** | Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*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 Mouse RGM-C (Catalog # 3634-RG) |

## PREPARATION AND STORAGE

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| **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.<br>*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.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 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). RGM-C is expressed in striated muscle and periportal hepatocytes (2-4). The protein undergoes partial cleavage intracellularly, resulting in a disulfide-linked dimer of the 14 kDa N-terminal and 33 kDa C-terminal portions (3, 5, 6). The N-terminal fragment contains an RGD motif, while the C-terminal fragment carries the GPI attachment site (3, 6). An alternatively spliced isoform lacks the N-terminal fragment. Full length RGM-C can also be released from the cell and circulates in the blood (5, 7). RGM-C is disrupted in type 2A juvenile hemochromatosis, a hereditary iron homeostasis disorder characterized by excessive iron accumulation (4). Loss of RGM-C function results in decreased expression of the iron regulatory hormone hepicidin and increased iron deposition in liver, pancreas, and heart (4, 8). Membrane associated RGM-C upregulates hepicidin while soluble RGM-C downregulates hepicidin expression (7). This appears to be an iron-responsive regulatory system, as high blood iron levels reduce the amount of soluble RGM-C produced (7). RGM-C, similar to RGM-A, associates with neogenin (6). Disease-related point mutations can prevent internal RGM-C cleavage or its ability to interact with neogenin (5, 6). Experimental inflammatory conditions result in decreased RGM-C expression and increased hepicidin expression, although the two effects occur independently (4, 9). RGM-C also functions as a BMP co-receptor and enhances BMP-2 and BMP-4 signaling (10). In this context, RGM-C enhances the BMP-2 upregulation of hepatic hepicidin (10). Mature mouse RGM-C shares 89% and 97% amino acid (aa) sequence identity with human and rat RGM-C, respectively. It shares 51% and 44% aa sequence identity with mouse RGM-A and RGM-B, respectively.

**References:**


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




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