

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human RGM-C/Hemojuvelin in direct ELISAs.
Source	Monoclonal Mouse IgG _{2B} Clone # 751757
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line, NS0-derived human RGM-C/Hemojuvelin Gln36-Asp400 Accession # Q6ZVN8
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

ELISA Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 hepcidin and increased iron deposition in liver, pancreas, and heart (5, 9). Membrane associated RGM-C upregulates hepcidin while soluble RGM-C downregulates hepcidin 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 hepcidin 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 hepcidin (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.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.