

## RGMb (H-60): sc-67053

### BACKGROUND

The repulsive guidance molecule (RGM) family of proteins are important in the guidance of growth cones of developing neurons. They are repulsive for a group of axons, those from the temporal half of the retina. RGM have been implicated in both axonal guidance and neural tube closure, but unlike ephrins, semaphorins, netrins and slits, no receptor mechanism for RGM activation has been defined. Dorsal root ganglion axons do not respond to RGM but neogenin (a netrin-binding protein which can function as an RGM receptor) expression can spur RGM responsiveness. The RGM proteins are attached to the membrane by a GPI-anchor. Two members of this family, RGMa and RGMb, are expressed in the nervous system. RGMc, also known as hemojuvelin, is a part of the signaling pathway activating hepcidin and works together with hepcidin to restrict iron absorption in the gut. Defects in the gene encoding for RGMc cause the autosomal recessive disorder juvenile hemochromatosis (JH).

### REFERENCES

1. Matsunaga, E. and Chedotal, A. 2004. Repulsive guidance molecule/neogenin: a novel ligand-receptor system playing multiple roles in neural development. *Dev. Growth Differ.* 46: 481-486.
2. Matsunaga, E., et al. 2004. RGM and its receptor neogenin regulate neuronal survival. *Nat. Cell Biol.* 6: 749-755.
3. Rajagopalan, S., et al. 2004. Neogenin mediates the action of repulsive guidance molecule. *Nat. Cell Biol.* 6: 756-762.
4. Brinks, H., et al. 2004. The repulsive guidance molecule RGMa is involved in the formation of afferent connections in the dentate gyrus. *J. Neurosci.* 24: 3862-3869.

### CHROMOSOMAL LOCATION

Genetic locus: RGMB (human) mapping to 5q15; Rgmb (mouse) mapping to 17 A2.

### SOURCE

RGMb (H-60) is a rabbit polyclonal antibody raised against amino acids 46-105 mapping near the N-terminus of RGMb of human origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

### APPLICATIONS

RGMb (H-60) is recommended for detection of RGMb of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RGMb (H-60) is also recommended for detection of RGMb in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RGMb siRNA (h): sc-45736, RGMb siRNA (m): sc-45737, RGMb shRNA Plasmid (h): sc-45736-SH, RGMb shRNA Plasmid (m): sc-45737-SH, RGMb shRNA (h) Lentiviral Particles: sc-45736-V and RGMb shRNA (m) Lentiviral Particles: sc-45737-V.

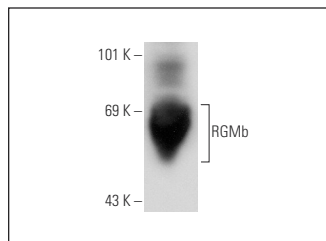
Molecular Weight of RGMb: 48 kDa.

Positive Controls: mouse pancreas extract: sc-364244 or K-562 whole cell lysate: sc-2203.

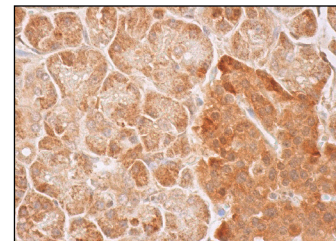
### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

### DATA



RGMb (H-60): sc-67053. Western blot analysis of RGMb expression in mouse pancreas tissue extract.



RGMb (H-60): sc-67053. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells and Islets of Langerhans.

### SELECT PRODUCT CITATIONS

1. Sanders, A.J., et al. 2014. Tumour angiogenesis and repulsive guidance molecule b: a role in HGF- and BMP-7-mediated angiogenesis. *Int. J. Oncol.* 45: 1304-1312.