

# RGMa (H-75): sc-67052

## 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., et al. 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.
5. Oldekamp, J., et al. 2004. Expression pattern of the repulsive guidance molecules RGMa, b and c during mouse development. *Gene Expr. Patterns* 4: 283-288.

## CHROMOSOMAL LOCATION

Genetic locus: RGMA (human) mapping to 15q26.1; Rgma (mouse) mapping to 7 D1.

## SOURCE

RGMa (H-75) is a rabbit polyclonal antibody raised against amino acids 291-365 mapping within an internal region of RGMa 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.

## APPLICATIONS

RGMa (H-75) is recommended for detection of RGMa 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).

RGMa (H-75) is also recommended for detection of RGMa in additional species, including equine and porcine.

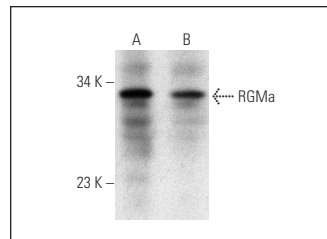
Suitable for use as control antibody for RGMa siRNA (h): sc-45732, RGMa siRNA (m): sc-45733, RGMa shRNA Plasmid (h): sc-45732-SH, RGMa shRNA Plasmid (m): sc-45733-SH, RGMa shRNA (h) Lentiviral Particles: sc-45732-V and RGMa shRNA (m) Lentiviral Particles: sc-45733-V.

Molecular Weight of full length RGMa: 55 kDa.

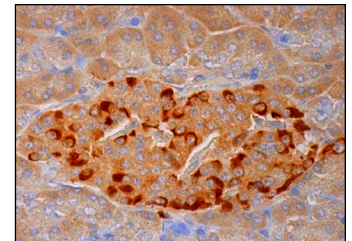
Molecular Weight of cleaved mature RGMa form: 38 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, mouse brain extract: sc-2253 or rat brain extract.

## DATA



RGMa (H-75): sc-67052. Western blot analysis of RGMa expression in mouse brain (A) and rat brain (B) tissue extracts.



RGMa (H-75): sc-67052. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells and Islets of Langerhans.

## PROTOCOLS

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

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Try **RGMa (E-10): sc-393046**, our highly recommended monoclonal alternative to RGMa (H-75).