

RGMb (P-14): sc-46487

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 as opposed to for 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 causes 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.
5. Oldekamp, J., et al. 2004. Expression pattern of the repulsive guidance molecules RGM A, B and C during mouse development. *Gene Expr. Patterns* 4: 283-288.

CHROMOSOMAL LOCATION

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

SOURCE

RGMb (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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.

Blocking peptide available for competition studies, sc-46487 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

RGMb (P-14) is recommended for detection of RGMb of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (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 (P-14) is also recommended for detection of RGMb in additional species, including equine 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: 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Li, J., et al. 2011. Potential prognostic value of repulsive guidance molecules in breast cancer. *Anticancer Res.* 31: 1703-1711.
2. Li, J., et al. 2011. Repulsive guidance molecules, novel bone morphogenetic protein co-receptors, are key regulators of the growth and aggressiveness of prostate cancer cells. *Int. J. Oncol.* 40: 544-550.
3. Li, J., et al. 2012. Repulsive guidance molecule B (RGMB) plays negative roles in breast cancer by coordinating BMP signaling. *J. Cell. Biochem.* 113: 2523-2531.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.