

RGMb (V-22): sc-130864

The Power to Question

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

SOURCE

RGMb (V-22) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of RGMb of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml 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

RGMb (V-22) is recommended for detection of RGMb of mouse 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).

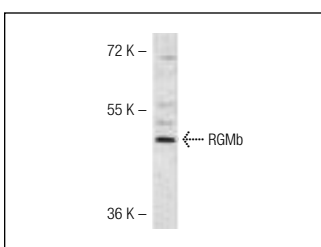
Suitable for use as control antibody for RGMb siRNA (h): sc-45736, RGMb siRNA (m): sc-45737, RGMb shRNA Plasmid (h): sc-45736-SH, RGMb shRNA Plasmid (m): sc-45737-SH, RGMb shRNA (h) Lentiviral Particles: sc-45736-V and RGMb shRNA (m) Lentiviral Particles: sc-45737-V.

Molecular Weight of RGMb: 48 kDa.

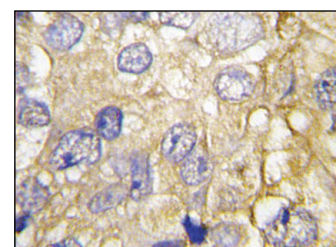
Positive Controls: K-562 whole cell lysate: sc-2203 or mouse pancreas extract: sc-364244.

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 (V-22): sc-130864. Western blot analysis of RGMb expression in K-562 whole cell lysate.



RGMb (V-22): sc-130864. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human prostate carcinoma tissue showing cytoplasmic and membrane localization.

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