SANTA CRUZ BIOTECHNOLOGY, INC.

RGMa (E-10): sc-393046

SANTA CRUZ BIOTECHNOLOGY

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 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).

CHROMOSOMAL LOCATION

Genetic locus: RGMA (human) mapping to 15q26.1.

SOURCE

RGMa (E-10) is a mouse monoclonal antibody raised against amino acids 291-365 mapping within an internal region of RGMa of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RGMa (E-10) is available conjugated to agarose (sc-393046 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393046 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393046 PE), fluorescein (sc-393046 FITC), Alexa Fluor® 488 (sc-393046 AF488), Alexa Fluor® 546 (sc-393046 AF546), Alexa Fluor® 594 (sc-393046 AF594) or Alexa Fluor® 647 (sc-393046 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393046 AF680) or Alexa Fluor® 790 (sc-393046 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

RGMa (E-10) is recommended for detection of RGMa of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of full length RGMa: 55 kDa.

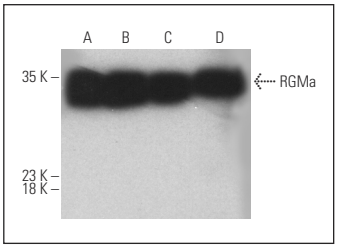
Molecular Weight of cleaved mature RGMa: 38 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, T98G cell lysate: sc-2294 or human brain extract: sc-364375.

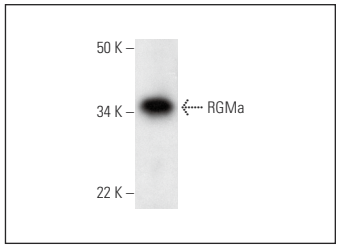
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



RGMa (E-10) HRP: sc-393046 HRP. Western blot analysis of RGMa expression in SK-N-MC (**A**), T98G (**B**) and Neuro-2A (**C**) whole cell lysates and human brain tissue extract (**D**).



RGMa (E-10): sc-393046. Western blot analysis of RGMa expression in human hippocampus tissue extract.

SELECT PRODUCT CITATIONS

1. Yuan, X., et al. 2022. RGMa promotes dedifferentiation of vascular smooth muscle cells into a macrophage -like phenotype *in vivo* and *in vitro*. J. Lipid Res. 63: 100276.
2. Shimizu, M., et al. 2023. RGMa collapses the neuronal actin barrier against disease-implicated protein and exacerbates ALS. Sci. Adv. 9: eadg3193.

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 for detailed protocols and support products.