RGS20 (M-60): sc-99136

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BIOTECHNOLOGY
The Power to Question

BACKGROUND

The regulators of G protein signaling (RGS) proteins inhibit heterotrimeric G protein signaling. RGS proteins work by functioning as GTPase-activating proteins (which increase the GTPase activity of G protein a subunits) thereby driving G proteins into their inactive GDP-bound form. RGS20 is expressed exclusively in brain, with highest levels in the caudate nucleus and temporal lobe. RGS20 belongs to the RZ subfamily because it is highly selectivie for the az subunit on G proteins. However, if protein kinase C phosphorylates the az subunit, the G protein is much less susceptible to RGS20 action. RGS20 directly interacts with the microtubule-destabilizing protein SCG10 (superior cervical ganglia, neural specific 10) and blocks its ability to induce microtubule disassmebly.

REFERENCES

1. Glick, J.L., et al. 1998. RGSZ1, a G_z-selective regulator of G protein signaling whose action is sensitive to the phosphorylation state of $G_{\alpha z}$. J. Biol. Chem. 273: 26008-26013.

2. Wang, J., et al. 1998. RGSZ1, a G_z-selective RGS protein in brain. Structure, membrane association, regulation by $G_{\alpha z}$ phosphorylation and relationship to a G_z GTPase-activating protein subfamily. J. Biol. Chem. 273: 26014-26025.

3. Barker, S.A., et al. 2001. RGSZ1 and Ret RGS: two of several splice variants from the gene RGS20. Genomics 78: 223-229.

4. Nixon, A.B., et al. 2002. The interaction of RGSZ1 with SCG10 attenuates the ability of SCG10 to promote microtubule disassembly. J. Biol. Chem. 277: 18127-18133.

5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607190. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

6. Wang, Y. and Young, K.H. 2004. Analysis of RGSZ1 protein interaction with $G_{\alpha i}$ subunits. Meth. Enzymol. 390: 31-52.

CHROMOSOMAL LOCATION

Genetic locus: Rgs20 (mouse) mapping to 1 A1.

SOURCE

RGS20 (M-60) is a rabbit polyclonal antibody raised against amino acids 1-60 mapping at the N-terminus of RGS20 of mouse 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

RGS20 (M-60) is recommended for detection of RGS20 of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for RGS20 siRNA (m): sc-61471, RGS20 shRNA Plasmid (m): sc-61471-SH and RGS20 shRNA (m) Lentiviral Particles: sc-61471-V.

Molecular Weight of RGS20: 27 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187.

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.

DATA
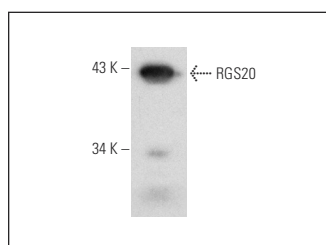
RGS20 (M-60): sc-99136. Western blot analysis of RGS20 expression in EOC 20 whole cell lysate.

PROTOCOLS

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