SANTA CRUZ BIOTECHNOLOGY, INC.

RGS20 (M-20): sc-48293

SANTA CRUZ 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 α subunits) thereby driving G proteins into their inactive GDP-bound form. RGS20 is a 25 kDa protein 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 α_z subunit on G proteins. However, if protein kinase C phosphorylates the α_z 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., et al. 2004. Analysis of RGSZ1 protein interaction with $G_{\alpha i}$ subunits. Meth. Enzymol. 390: 31-52.
7. Nixon, AB.,et al. 2004. Analysis of the regulation of microtubule dynamics by interaction of RGSZ1 (RGS20) with the neuronal stathmin, SCG10. Meth. Enzymol. 390: 53-64.

CHROMOSOMAL LOCATION

Genetic locus: RGS20 (human) mapping to 8q11.23; Rgs20 (mouse) mapping to 1 A1.

SOURCE

RGS20 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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.

Blocking peptide available for competition studies, sc-48293 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RGS20 (M-20) is recommended for detection of RGS20 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for RGS20 siRNA (h): sc-61470, RGS20 siRNA (m): sc-61471, RGS20 shRNA Plasmid (h): sc-61470-SH, RGS20 shRNA Plasmid (m): sc-61471-SH, RGS20 shRNA (h) Lentiviral Particles: sc-61470-V and RGS20 shRNA (m) Lentiviral Particles: sc-61471-V.

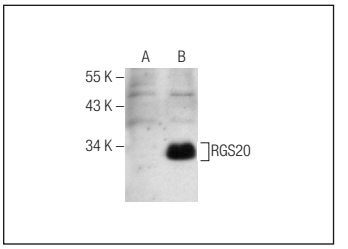
Molecular Weight of RGS20: 44 kDa.

Positive Controls: RGS20 (h): 293T Lysate: sc-372921, EOC 20 whole cell lysate or C6 whole cell lysate.

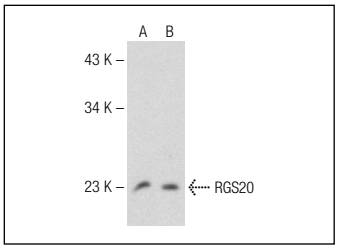
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



RGS20 (M-20): sc-48293. Western blot analysis of RGS20 expression in non-transfected: sc-117752 (**A**) and human RGS20 transfected: sc-372921 (**B**) 293T whole cell lysates.



RGS20 (M-20): sc-48293. Western blot analysis of RGS20 expression in C6 (**A**) and EOC 20 (**B**) whole cell lysates.

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 or our catalog for detailed protocols and support products.