SANTA CRUZ BIOTECHNOLOGY, INC.

RGS1 (N-19): sc-6210

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The Power to Question

BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to intracellular effectors. In mammals, G protein α, β and γ polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their α subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. Several G_α GTP-ase activating proteins (GAPs) have been identified and are designated RGS1 (regulator of G protein signaling), RGS2, RGS4, RGS7, RGS9, RGS10 and GAIP (G_α-interacting protein). Each of these proteins has been shown to deactivate specific G_α isoforms by increasing the rate at which they convert GTP to GDP. RGS1, RGS4 and GAIP bind tightly to and exhibit GAP activity towards $G_{\alpha\, i}$, $G_{\alpha\, o}$, and $G_{\alpha\, t}$, but not $G_{\alpha\, s}$.

REFERENCES

1. Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. Science 252: 802-808.
2. Cali, J.J., et al. 1992. Selective tissue distribution of G protein γ subunits, including a new form of the γ subunits identified by cDNA cloning. J. Biol. Chem. 267: 24023-24027.
3. McLaughlin, S.K., et al. 1992. Gustducin is a taste-cell-specific G protein closely related to the transducins. Nature 357: 563-569.
4. Kleuss, C., et al. 1992. Different β-subunits determine G-protein interaction with transmembrane receptors. Nature 358: 424-426.
5. von Weizsacker, E., et al. 1992. Diversity among the β subunits of heterotrimeric GTP-binding proteins: characerization of a novel β-subunit cDNA. Biochem. Biophys. Res. Comm. 183: 350-356.
6. Conklin, B.R., et al. 1993. Structural elements of G_α subunits that interact with $G_{\beta\gamma}$, receptors, and effectors. Cell 73: 631-641.
7. Watson, N., et al. 1996. RGS family members: GTPase-activating proteins for heterotrimeric G-protein α-subunits. Nature 383: 172-175.
8. Heximer, S.P., et al. 1997. RGS2/G0S8 is a selective inhibitor of $G_{q\,\alpha}$ function. Proc. Natl. Acad. Sci. USA 94: 14389-14393.

CHROMOSOMAL LOCATION

Genetic locus: RGS1 (human) mapping to 1q31.2; Rgs1 (mouse) mapping to 1 F.

SOURCE

RGS1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of RGS1 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-6210 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

RGS1 (N-19) is recommended for detection of RGS1 of mouse, rat 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).

RGS1 (N-19) is also recommended for detection of RGS1 in additional species, including canine and bovine.

Suitable for use as control antibody for RGS1 siRNA (h): sc-36408, RGS1 siRNA (m): sc-36409, RGS1 shRNA Plasmid (h): sc-36408-SH, RGS1 shRNA Plasmid (m): sc-36409-SH, RGS1 shRNA (h) Lentiviral Particles: sc-36408-V and RGS1 shRNA (m) Lentiviral Particles: sc-36409-V.

Molecular Weight of RGS1: 20 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207 or rat intestine extract.

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. Abel, A., et al. 2000. Cell cycle-dependent coupling of the vasopressin V1a receptor to different G proteins. J. Biol. Chem. 275: 32543-32551.

STORAGE

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

PROTOCOLS

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