SANTA CRUZ BIOTECHNOLOGY, INC.

RGS10 (H-159): sc-28835

SANTA CRUZ BIOTECHNOLOGY

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. Four G_α GTPase-activating proteins (GAPs) have been identified and are designated RGS1 (regulator of G protein signaling), RGS4, 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 $G_{\alpha\,s}$. RGS10 increases the GTP hydrolytic activity of several members of the $G_{\alpha\,i}$ sub-family, including $G_{\alpha\,i\text{-}3}$, $G_{\alpha\,z}$ and $G_{\alpha\,o}$.

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. 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. Commun. 183: 350-356.
5. Kleuss, C., et al. 1992. Different β-subunits determine G protein interaction with transmembrane receptors. Nature 358: 424-426.
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. Hunt, T.W., et al. 1996. RGS10 is a selective activator of $G_{\alpha\,i}$ GTPase activity. Nature 383: 175-177.

CHROMOSOMAL LOCATION

Genetic locus: RGS10 (human) mapping to 10q26.11; Rgs10 (mouse) mapping to 7 F3.

SOURCE

RGS10 (H-159) is a rabbit polyclonal antibody raised against amino acids 15-173 mapping at the C-terminus of RGS10 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.

APPLICATIONS

RGS10 (H-159) is recommended for detection of RGS10 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); partially cross reactive with other RGS family members.

RGS10 (H-159) is also recommended for detection of RGS10 in additional species, including equine and porcine.

Suitable for use as control antibody for RGS10 siRNA (h): sc-36410, RGS10 siRNA (m): sc-36411, RGS10 shRNA Plasmid (h): sc-36410-SH, RGS10 shRNA Plasmid (m): sc-36411-SH, RGS10 shRNA (h) Lentiviral Particles: sc-36410-V and RGS10 shRNA (m) Lentiviral Particles: sc-36411-V.

Molecular Weight of RGS10: 20 kDa.

Positive Controls: H4 cell lysate: sc-2408, BJAB whole cell lysate: sc-2207 or Ramos cell lysate: sc-2216.

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.

SELECT PRODUCT CITATIONS

1. Cao, X., et al. 2006. Regulator of G-protein signaling 2 (RGS2) inhibits androgen-independent activation of androgen receptor in prostate cancer cells. Oncogene 26: 3719–3734.

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.