SANTA CRUZ BIOTECHNOLOGY, INC.

RGS2 (BC-43): sc-100761

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. Several G_α GTP-ase activating proteins (GAPs) have been identified and are designated RGS1, 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. RGS2 has been shown to be an inhibitor of $G_{\alpha\, q}$ function. RGS9 expression is restricted to photoreceptor cells and RGS9 has been shown to regulate $G_{\alpha\, t}$.

CHROMOSOMAL LOCATION

Genetic locus: RGS2 (human) mapping to 1q31.2; Rgs2 (mouse) mapping to 1 F.

SOURCE

RGS2 (BC-43) is a mouse monoclonal antibody raised against recombinant RGS2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain 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.

PROTOCOLS

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

APPLICATIONS

RGS2 (BC-43) is recommended for detection of RGS2 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), immunohistochemistry (including paraffin-embedded sections) (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 RGS2 siRNA (h): sc-40659, RGS2 siRNA (m): sc-40660, RGS2 shRNA Plasmid (h): sc-40659-SH, RGS2 shRNA Plasmid (m): sc-40660-SH, RGS2 shRNA (h) Lentiviral Particles: sc-40659-V and RGS2 shRNA (m) Lentiviral Particles: sc-40660-V.

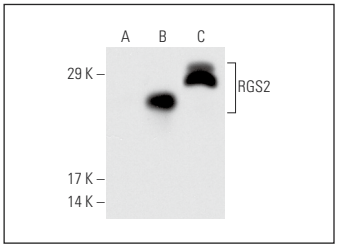
Molecular Weight of RGS2: 32 kDa.

Positive Controls: RGS2 (m): 293T Lysate: sc-123104, mouse brain extract: sc-2253 or IMR-32 nuclear extract: sc-2148.

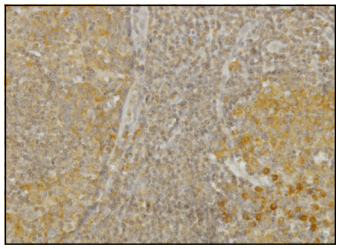
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



RGS2 (BC-43): sc-100761. Western blot analysis of RGS2 expression in non-transfected: sc-117752 (**A**) and mouse RGS2 transfected: sc-123104 (**B**) 293T whole cell lysates and mouse brain tissue extract (**C**).



RGS2 (BC-43): sc-100761. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Madrigal, A., et al. 2017. Expression regulation and functional analysis of RGS2 and RGS4 in adipogenic and osteogenic differentiation of human mesenchymal stem cells. Biol. Res. 50: 43.
2. Jin, M., et al. 2021. MicroRNA-3935 promotes human trophoblast cell epithelial-mesenchymal transition through tumor necrosis factor receptor-associated factor 6/regulator of G protein signaling 2 axis. Reprod. Biol. Endocrinol. 19: 134.
3. Wu, X., et al. 2022. Human umbilical cord mesenchymal stem cells combined with pirfenidone upregulates the expression of RGS2 in the pulmonary fibrosis in mice. Respir. Res. 23: 270.
4. Alsafadi, D.B., et al. 2022. The association of RGS2 and Slug in the androgen-induced acquisition of mesenchymal features of breast MDA-MB-453 cancer cells. Endocr. Res. 47: 64-79.
5. Tang, C., et al. 2023. RGS2 promotes estradiol biosynthesis by trophoblasts during human pregnancy. Exp. Mol. Med. 55: 240-252.
6. Joshi, J.C., et al. 2025. RGS2 is an innate immune checkpoint for suppressing $G_{\alpha q}$-mediated IFNγ generation and lung injury. iScience 28: 111878.

RESEARCH USE

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