SANTA CRUZ BIOTECHNOLOGY, INC.

RGS6/7 (B-10): sc-398222

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to various intracellular effectors. G proteins comprise α, β and γ subunits, and following activation the a subunit binds GTP and dissociates from the β γ complex. A large group of proteins have been identified as GTPase-activaing proteins (GAPs), including the RGS (regulator of G protein signaling) family, which serve to deactivate specific G_{α} isoforms by increasing the rate at which they convert GTP to GDP. A subfamily of RGS proteins expressed in the central nervous system contain, in addition to the highly conserved RGS domain, a characteristic GGL domain, or G protein γ subunit-like domain, which mediates binding to $G_{\beta 5}$ subunits. This subfamily, which includes RGS6, RGS7, RGS9 and RGS11, associates with $G_{\beta 5}$ to form active GAP complexes that are predominantly localized to the cytosol. RGS/β5 complexes preferentially target $G_{\alpha o}$ subunit for hydrolysis and inhibit $G_{\beta 1 \gamma 2}$-mediated activation of phospholipase C.

REFERENCES

1. 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.
2. Snow, B.E., et al. 1998. A G protein γ subunit-like domain shared between RGS11 and other RGS proteins specifies binding to $G_{\beta 5}$ subunits. Proc. Natl. Acad. Sci. USA 95: 13307-13312.
3. Thomas, E.A., et al. 1998. RGS9: a regulator of G-protein signalling with specific expression in rat and mouse striatum. J. Neurosci. Res. 52: 118-124.
4. Guan, K.L. and Han, M. 1999. A G-protein signaling network mediated by an RGS protein. Genes Dev. 13: 1763-1767.
5. Hepler, J.R. 1999. Emerging roles for RGS proteins in cell signalling. Trends Pharmacol. Sci. 20: 376-382.
6. Posner, B.A., et al. 1999. Regulators of G protein signaling 6 and 7. Purification of complexes with $G_{\beta 5}$ and assessment of their effects on G protein-mediated signalin pathways. J. Biol. Chem. 274: 31087-31093.
7. Snow, B.E., et al. 1999. Fidelity of G protein β-subunit association by the G protein γ-subunit-like domains of RGS6, RGS7, and RGS11. Proc. Natl. Acad. Sci. USA 96: 6489-6494.

CHROMOSOMAL LOCATION

Genetic locus: RGS6 (human) mapping to 14q24.2, RGS7 (human) mapping to 1q43; Rgs6 (mouse) mapping to 12 D1, Rgs7 (mouse) mapping to 1 H3.

SOURCE

RGS6/7 (B-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 392-420 at the C-terminus of RGS7 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

RGS6/7 (B-10) is recommended for detection of RGS6 and RGS7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

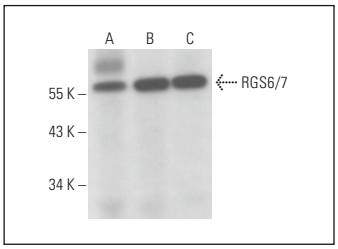
Molecular Weight of RGS6/7: 55 kDa.

Positive Controls: rat brain extract: sc-2392, mouse brain extract: sc-2253 or TT whole cell lysate: sc-364195.

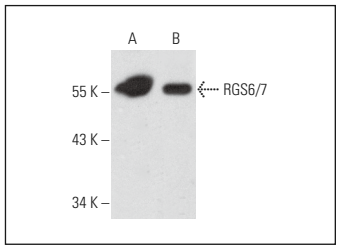
RECOMMENDED SUPPORT REAGENTS

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.

DATA



RGS6/7 (B-10): sc-398222. Western blot analysis of RGS6/7 expression in mouse brain (**A**), rat hippocampus (**B**) and rat brain (**C**) tissue extracts.



RGS6/7 (B-10): sc-398222. Western blot analysis of RGS6/7 expression in TT whole cell lysate (**A**) and mouse cerebellum tissue extract (**B**).

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 for detailed protocols and support products.