SANTA CRUZ BIOTECHNOLOGY, INC.

RGS6/7 (H-190): sc-28836

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 $\beta\gamma$ complex. A large group of proteins have been identified as GTPase-activating 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 $G_{\beta5}$ subunits. This subfamily, which includes RGS6, RGS7, RGS9 and RGS11, associates with $G_{\beta5}$ 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 $G_{\beta1\gamma2}$-mediated activation of phospholipase C.

REFERENCES

1. Conklin, B.R. and Bourne, H.R. 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 $G_{\beta5}$ 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 signaling. Trends Pharmacol. Sci. 20: 376-382.

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 (H-190) is a rabbit polyclonal antibody raised against amino acids 306-495 mapping at the C-terminus of RGS7 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.

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.

APPLICATIONS

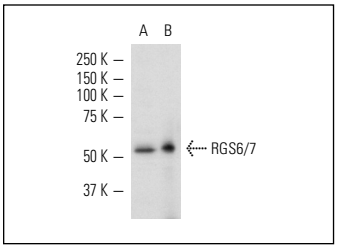
RGS6/7 (H-190) is recommended for detection of RGS6 and isoforms 1-4 of RGS7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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).

RGS6/7 (H-190) is also recommended for detection of RGS6 and isoforms 1-4 of RGS7 in additional species, including equine and canine.

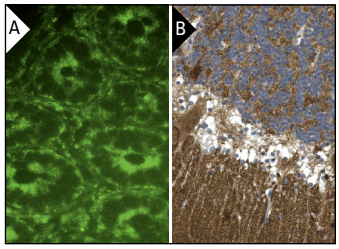
Molecular Weight of RGS6/7: 55 kDa.

Positive Controls: TT whole cell lysate: sc-364195, mouse cerebellum extract: sc-2403 or mouse brain extract: sc-2253.

DATA



RGS6/7 (H-190): sc-28836. Western blot analysis of RGS6 and RGS7 expression in TT whole cell lysate (**A**) and mouse cerebellum tissue extract (**B**).



RGS6/7 (H-190): sc-28836. Immunofluorescence staining of normal mouse intestine frozen section showing membrane and cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of cells in molecular and granular layers and Purkinje cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Fujita, K., et al. 2008. Immunohistochemical identification of messenger RNA-related proteins in basophilic inclusions of adult-onset atypical motor neuron disease. Acta Neuropathol. 116: 439-445.
2. Hernández-Pinto, A.M., et al. 2009. α-Tocopherol decreases the somatostatin receptor-effector system and increases the cyclic AMP/cyclic AMP response element binding protein pathway in the rat dentate gyrus. Neuroscience 162: 106-117.
3. Saowakon, N., et al. 2009. Fasciola gigantica: anthelmintic effect of the aqueous extract of *Artocarpus lakoocha*. Exp. Parasitol. 122: 289-298.

RESEARCH USE

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