

RGS6/7 (F-10): sc-271643

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 α 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 $G_{\beta 5}$ 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/ $\beta 5$ complexes preferentially target $G_{\alpha o}$ subunit for hydrolysis and inhibit $G_{\beta 1\gamma 2}$ -mediated activation of phospholipase C.

REFERENCES

- 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.
- 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.
- 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.
- Guan, K.L. and Han, M. 1999. A G protein signaling network mediated by an RGS protein. *Genes Dev.* 13: 1763-1767.
- 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 (F-10) is a mouse monoclonal antibody raised against amino acids 306-495 (deletion 454-471) mapping at the C-terminus of RGS7 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RGS6/7 (F-10) is available conjugated to agarose (sc-271643 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271643 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271643 PE), fluorescein (sc-271643 FITC), Alexa Fluor[®] 488 (sc-271643 AF488), Alexa Fluor[®] 546 (sc-271643 AF546), Alexa Fluor[®] 594 (sc-271643 AF594) or Alexa Fluor[®] 647 (sc-271643 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271643 AF680) or Alexa Fluor[®] 790 (sc-271643 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

RGS6/7 (F-10) is recommended for detection of RGS6 and isoforms 1-4 of RGS7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

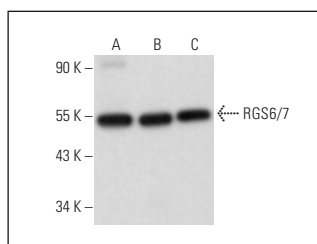
Molecular Weight of RGS6/7: 55 kDa.

Positive Controls: mouse brain extract: sc-2253, rat brain extract: sc-2392 or HeLa whole cell lysate: sc-2200.

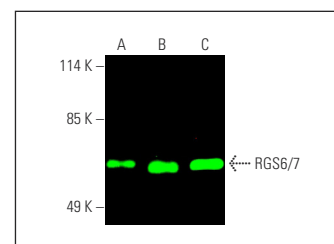
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 (F-10): sc-271643. Western blot analysis of RGS6/7 expression in mouse brain (A), rat hippocampus (B) and rat brain (C) tissue extracts.



RGS6/7 (F-10): sc-271643. Near-Infrared western blot analysis of RGS6/7 expression in mouse brain (A), rat hippocampus (B) and rat brain (C) tissue extracts. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgG κ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

- Neuillé, M., et al. 2015. LRIT3 is essential to localize TRPM1 to the dendritic tips of depolarizing bipolar cells and may play a role in cone synapse formation. *Eur. J. Neurosci.* 42: 1966-1975.
- Dao, W., et al. 2022. RGS6 drives spinal cord injury by inhibiting AMPK pathway in mice. *Dis. Markers* 2022: 4535652.

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.

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