

RGS3 (CC-Q7): sc-100762

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. RGS3 is a protein of the RGS family that preferentially binds to the activated form of $G_{\alpha 11}$. Through this association, RGS3 inhibits $G_{\alpha 11}$ -induced signaling, leading to a decrease in the accumulation of intracellular calcium and the inhibition of MAP kinase phosphorylation. RGS3 is highly expressed in adult kidney and myocardium, and it is primarily localized to the cytoplasm. Upon activation of $G_{\alpha 11}$, RGS3 translocates from the cytosol to the plasma membrane, thereby bringing RGS3 within close proximity to the targeted G protein.

REFERENCES

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- Druey, K.M., et al. 1996. Inhibition of G protein-mediated MAP kinase activation by a new mammalian gene family. *Nature* 379: 742-746.
- Chatterjee, T.K., et al. 1997. Genomic organization, 5'-flanking region, and chromosomal localization of the human RGS3 gene. *Genomics* 45: 429-433.
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- Dulin, N.O., et al. 1999. RGS3 inhibits G protein-mediated signaling via translocation to the membrane and binding to $G_{\alpha 11}$. *Mol. Cell. Biol.* 19: 714-723.

CHROMOSOMAL LOCATION

Genetic locus: RGS3 (human) mapping to 9q32.

SOURCE

RGS3 (CC-Q7) is a mouse monoclonal antibody raised against recombinant RGS3 of human origin.

PRODUCT

Each vial contains 100 μ g IgG γ 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.

APPLICATIONS

RGS3 (CC-Q7) is recommended for detection of RGS3 of human origin by Western Blotting (starting dilution 1:200, 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), 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 RGS3 siRNA (h): sc-40661, RGS3 shRNA Plasmid (h): sc-40661-SH and RGS3 shRNA (h) Lentiviral Particles: sc-40661-V.

Molecular Weight of RGS3 long isoform: 75 kDa.

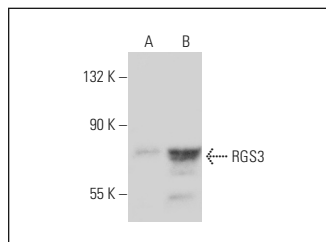
Molecular Weight of RGS3 short isoform: 25 kDa.

Positive Controls: RGS3 (h): 293T Lysate: sc-115637 or Hep G2 cell lysate: sc-2227.

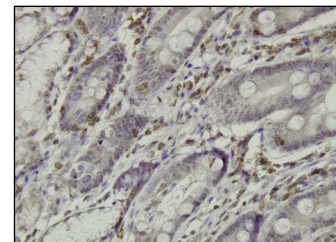
RECOMMENDED SUPPORT REAGENTS

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

DATA



RGS3 (CC-Q7): sc-100762. Western blot analysis of RGS3 expression in non-transfected: sc-117752 (A) and human RGS3 transfected: sc-115637 (B) 293T whole cell lysates.



RGS3 (CC-Q7): sc-100762. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human small intestine tissue showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Levay, M.K., et al. 2022. RGS3L allows for an M₂ muscarinic receptor-mediated RhoA-dependent inotropy in cardiomyocytes. *Basic Res. Cardiol.* 117: 8.

RESEARCH USE

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