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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

RGS3 (h): 293T Lysate: sc-115637

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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2. Druey, K.M., Blumer, K.J., Kang, V.H. and Kehrl, J.H. 1996. Inhibition of G protein-mediated MAP kinase activation by a new mammalian gene family. Nature 379: 742-746.
3. Chatterjee, T.K., Eapen, A., Kanis, A.B. and Fisher, R.A. 1997. Genomic organization, 5'-flanking region, and chromosomal localization of the human RGS3 gene. Genomics 45: 429-433.
4. Chatterjee, T.K., Eapen, A.K. and Fisher, R.A. 1997. A truncated form of RGS3 negatively regulates G protein-coupled receptor stimulation of adenylyl cyclase and phosphoinositide phospholipase C. J. Biol. Chem. 272: 15481-15487.
5. Guan, K.L. and Han, M. 1999. A G protein signaling network mediated by an RGS protein. Genes Dev. 13: 1763-1767.
6. Gruning, W., Arnould, T., Jochimsen, F., Sellin, L., Ananth, S., Kim, E. and Walz, G. 1999. Modulation of renal tubular cell function by RGS3. Am. J. Physiol. 276: 535-543.
7. Dulin, N.O., Sorokin, A., Reed, E., Elliott, S., Kehrl, J.H. and Dunn, M.J. 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.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

PRODUCT

RGS3 (h): 293T Lysate represents a lysate of human RGS3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

RGS3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive RGS3 antibodies. Recommended use: 10-20 µl per lane.

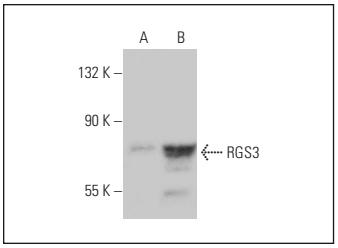
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RGS3 (CC-Q7): sc-100762 is recommended as a positive control antibody for Western Blot analysis of enhanced human RGS3 expression in RGS3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

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.

RESEARCH USE

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