

RasGRP3 (h): 293T Lysate: sc-114055

BACKGROUND

Members of the Ras subfamily of GTPases function in signal transduction as GTP/GDP-modulated switches that rotate between inactive GDP- and active GTP-bound states. Guanine nucleotide exchange factors (GEFs), such as RasGRP3 (GRP3), act as Ras activators by promoting retrieval of GTP to maintain the active GTP-bound state and are the fundamental link between cell surface receptors and Ras activation. Highest levels of RasGRP3 expression are observed in heart, brain, lung and kidney tissues, and intermediate expression is observed in liver, skeletal muscle, pancreas, spleen, testis and ovary tissues. RasGRP3, which shares significant sequence identity with the calcium- and diacylglycerol-activated GEFs, activates Ras and Rap 1 and promotes activation of ELK1 in prostate cancer cell lines.

REFERENCES

1. Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. XII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 5: 355-364.
2. Rebhun, J.F., et al. 2000. Identification of guanine nucleotide exchange factors (GEFs) for the Rap 1 GTPase. Regulation of MR-GEF by M-Ras-GTP interaction. J. Biol. Chem. 275: 34901-34908.
3. Aiba, Y., et al. 2004. Activation of RasGRP3 by phosphorylation of Thr 133 is required for B cell receptor-mediated Ras activation. Proc. Natl. Acad. Sci. USA 101: 16612-16617.
4. Roberts, D.M., et al. 2004. A vascular gene trap screen defines RasGRP3 as an angiogenesis-regulated gene required for the endothelial response to phorbol esters. Mol. Cell. Biol. 24: 10515-10528.
5. Braun, D.C., et al. 2005. Role of phorbol ester localization in determining protein kinase C or RasGRP3 translocation: real-time analysis using fluorescent ligands and proteins. Mol. Cancer Ther. 4: 141-150.
6. Coughlin, J.J., et al. 2005. RasGRP1 and RasGRP3 regulate B cell proliferation by facilitating B cell receptor-Ras signaling. J. Immunol. 175: 7179-7184.
7. Ozaki, N., et al. 2005. RasGRP3 mediates phorbol ester-induced, protein kinase C-independent exocytosis. Biochem. Biophys. Res. Commun. 329: 765-771.
8. Regier, D.S., et al. 2005. Diacylglycerol kinase- α regulates Ras guanyl-releasing protein 3 and inhibits Rap 1 signaling. Proc. Natl. Acad. Sci. USA 102: 7595-7600.
9. Zheng, Y., et al. 2005. Phosphorylation of RasGRP3 on threonine 133 provides a mechanistic link between PKC and Ras signaling systems in B cells. Blood 105: 3648-3654.

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.

CHROMOSOMAL LOCATION

Genetic locus: RASGRP3 (human) mapping to 2p22.3.

PRODUCT

RasGRP3 (h): 293T Lysate represents a lysate of human RasGRP3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

RasGRP3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive RasGRP3 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.

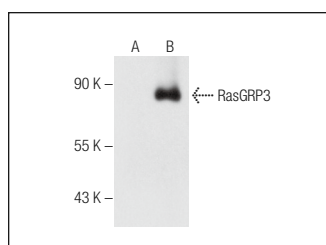
RasGRP3 (B-1): sc-376745 is recommended as a positive control antibody for Western Blot analysis of enhanced human RasGRP3 expression in RasGRP3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

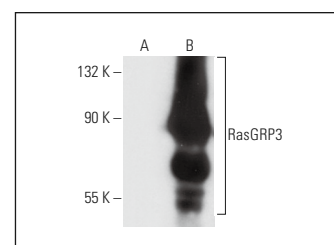
To ensure optimal results, the following support reagents are recommended:

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



RasGRP3 (B-1): sc-376745. Western blot analysis of RasGRP3 expression in non-transfected: sc-117752 (A) and human RasGRP3 transfected: sc-114055 (B) 293T whole cell lysates.



RasGRP3 (H-1): sc-271068. Western blot analysis of RasGRP3 expression in non-transfected: sc-117752 (A) and human RasGRP3 transfected: sc-114055 (B) 293T whole cell lysates.

RESEARCH USE

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