SANTA CRUZ BIOTECHNOLOGY, INC.

Ras-GRF1 (C-20): sc-224

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

A critical step in signal transduction responses to stimulation of cell surface receptors by their ligands involves the accumulation of Ras proteins in their active GTP-bound state. To reach their active GTP-bound state, Ras proteins must first release bound GDP, a rate limiting step mediated by a guanine nucleotide releasing factor (GRF). The mammalian Ras p21 GRF protein has been designated Ras-GRF1 p140. Ras-GRF1 accelerates release of GDP from H- and N-Ras p21 protein *in vitro,* but not from the related Ral A or Cdc42Hs GTP-binding proteins. Of interest, a region mapping within the amino terminal domain of Ras-GRF1 is similar to both the human breakpoint cluster protein, Bcr, and the Dbl proto-oncogene product, a guanine nucleotide releasing factor for Cdc42Hs. Ras-GRF2 p135 has also been identified. Ras-GRF2 p135 is highly homologous to Ras-GRF1 p140 except in the region between the REM and Cdc25 domains and appears to function similarly to Ras-GRF1 p140.

CHROMOSOMAL LOCATION

Genetic locus: RASGRF1 (human) mapping to 15q25.1; Rasgrf1 (mouse) mapping to 9 E3.1.

SOURCE

Ras-GRF1 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of Ras-GRF1 of rat origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-224 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ras-GRF1 (C-20) is recommended for detection of Ras-GRF1 p140 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Ras-GRF1 (C-20) is also recommended for detection of Ras-GRF1 p140 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Ras-GRF1 siRNA (h): sc-41732, Ras-GRF1 siRNA (m): sc-41733, Ras-GRF1 shRNA Plasmid (h): sc-41732-SH, Ras-GRF1 shRNA Plasmid (m): sc-41733-SH, Ras-GRF1 shRNA (h) Lentiviral Particles: sc-41732-V and Ras-GRF1 shRNA (m) Lentiviral Particles: sc-41733-V.

Molecular Weight of Ras-GRF1 isoforms: 140/55 kDa.

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

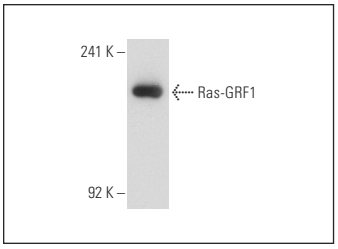
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

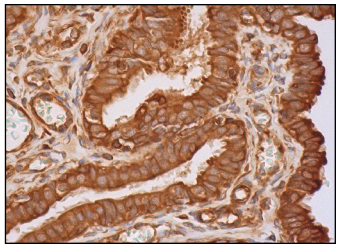
RESEARCH USE

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

DATA



Ras-GRF1 (C-20): sc-224. Western blot analysis of Ras-GRF1 expression in HeLa whole cell lysate.



Ras-GRF1 (C-20): sc-224. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Mattingly, R., et al. 1996. Phosphorylation-dependent activation of the Ras-GRF/Cdc25^{Mm} exchange factor by muscarinic receptors and G protein $\beta\gamma$ subunits. Nature 382: 268-272.
2. Buchsbaum, R., et al. 1996. The N-terminal pleckstrin, coiled-coil, and IQ domains of the exchange factor Ras-GRF act cooperatively to facilitate activation by calcium. Mol. Cell. Biol. 16: 4888-4896.
3. Colombo, G., et al. 2009. Transcriptomic and proteomic analyses of mouse cerebellum reveals alterations in RasGRF1 expression following *in vivo* chronic treatment with δ 9-tetrahydrocannabinol. J. Mol. Neurosci. 37: 111-122.
4. Lavagni, P., et al. 2009. Identification of novel Ras-GRF1 interacting partners by large-scale proteomic analysis. J. Mol. Neurosci. 37: 212-224.
5. Ahmad, S., et al. 2010. Decreased myocardial expression of dystrophin and titin mRNA and protein in dilated cardiomyopathy: possibly an adverse effect of TNF-α. J. Clin. Immunol. 30: 520-530.
6. Baucum, A.J., et al. 2010. Identification and validation of novel spinophilin-associated proteins in rodent striatum using an enhanced *ex vivo* shotgun proteomics approach. Mol. Cell. Proteomics 9: 1243-1259.
7. Wang, Q., et al. 2011. Focal adhesions and Ras are functionally and spatially integrated to mediate IL-1 activation of ERK. FASEB J. 25: 3448-3464.
8. Megill, A., et al. 2013. A tetra(ethylene glycol) derivative of benzothiazole aniline enhances Ras-mediated spinogenesis. J. Neurosci. 33: 9306-9318.