SANTA CRUZ BIOTECHNOLOGY, INC.

GRF-1 (N-13): sc-131536

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

The glucocorticoid receptor (GR) is a ligand-dependent, transactivating regulatory protein that is a member of the nuclear receptor superfamily. GRF-1 (glucocorticoid receptor DNA-binding factor 1), also known as p190RhoGAP or simply p190, is a transcriptional regulator which binds to the promoter region of the glucocorticoid receptor gene and represses its expression. By repressing GR expression, GRF-1 acts to down-regulate Rho signaling, thereby mediating both actin cytoskeletal rearrangements and cell cycle events. Through its GAP domain, GRF-1 is thought to affect cytokinesis by regulating Rho activity; a regulation that is controlled by the ubiquination of the GTP binding region and subsequent degradation of GRF-1. Additionally, GRF-1 plays an important role in oligodendrocyte differentiation, a process that is absent in malignant glioma tumors, implicating GRF-1 as a possible tumor suppressor. GRF-1 expression is regulated by glucocorticoids and the expressed protein exists as two isoforms produced by alternative splicing events.

REFERENCES

1. Dib, K., et al. 2001. Role of p190RhoGAP in β2 integrin regulation of RhoA in human neutrophils. J. Immunol. 166: 6311-6322.
2. Su, L., et al. 2003. $p190^{RhoGAP}$ is cell cycle regulated and affects cytokinesis. J. Cell Biol. 163: 571-582.
3. Hernández, S.E., et al. 2004. Adhesion-dependent regulation of p190RhoGAP in the developing brain by the Abl-related gene tyrosine kinase. Curr. Biol. 14: 691-696.
4. Holinstat, M., et al. 2006. Suppression of RhoA activity by focal adhesion kinase-induced activation of p190RhoGAP: role in regulation of endothelial permeability. J. Biol. Chem. 281: 2296-2305.
5. Sastry, S.K., et al. 2006. PTP-PEST couples membrane protrusion and tail retraction via VAV2 and p190RhoGAP. J. Biol. Chem. 281: 11627-11636.
6. Kusama, T., et al. 2006. Inactivation of Rho GTPases by p190 RhoGAP reduces human pancreatic cancer cell invasion and metastasis. Cancer Sci. 97: 848-853.
7. Wildenberg, G.A., et al. 2006. p120-catenin and p190RhoGAP regulate cell-cell adhesion by coordinating antagonism between Rac and Rho. Cell 127: 1027-1039.
8. Peacock, J.G., et al. 2007. The Abl-related gene tyrosine kinase acts through p190RhoGAP to inhibit actomyosin contractility and regulate focal adhesion dynamics upon adhesion to fibronectin. Mol. Biol. Cell 18: 3860-3872.
9. Sfakianos, M.K., et al. 2007. Inhibition of Rho via Arg and p190RhoGAP in the postnatal mouse hippocampus regulates dendritic spine maturation, synapse and dendrite stability, and behavior. J. Neurosci. 27: 10982-10992.

CHROMOSOMAL LOCATION

Genetic locus: GRLF1 (human) mapping to 19q13.32; Grlf1 (mouse) mapping to 7 A2.

SOURCE

GRF-1 (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GRF-1 of human 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-131536 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GRF-1 (N-13) is recommended for detection of GRF-1 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

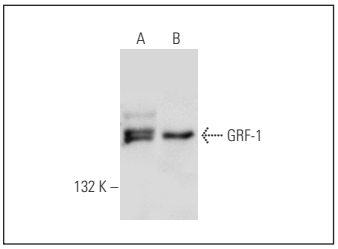
GRF-1 (N-13) is also recommended for detection of GRF-1 isoforms 1 and 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GRF-1 siRNA (h): sc-97682, GRF-1 siRNA (m): sc-41706, GRF-1 shRNA Plasmid (h): sc-97682-SH, GRF-1 shRNA Plasmid (m): sc-41706-SH, GRF-1 shRNA (h) Lentiviral Particles: sc-97682-V and GRF-1 shRNA (m) Lentiviral Particles: sc-41706-V.

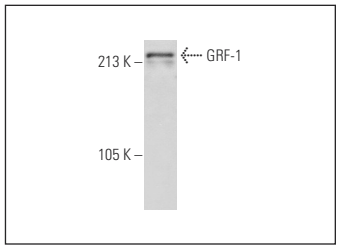
Molecular Weight of GRF-1: 190 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, MCF7 nuclear extract: sc-2149 or c4 whole cell lysate: sc-364186.

DATA



GRF-1 (N-13): sc-131536. Western blot analysis of GRF-1 expression in c4 whole cell lysate (**A**) and MCF7 nuclear extract (**B**).



GRF-1 (N-13): sc-131536. Western blot analysis of GRF-1 expression in HEK293 whole cell lysate.

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.