

C3G (H-300): sc-15359

BACKGROUND

Ras p21 is the prototype of a superfamily of GTPases that is involved in the regulation of a wide variety of cellular processes. Ras signals in its GTP-bound form but is "turned off" when bound to GDP. When unregulated or constitutively turned on by mutations, Ras signaling contributes to malignant transformation. The switch between active and inactive Ras is controlled by GTPase-activating proteins (GAPs) and guanine nucleotide exchange factors (GEFs). C3G was isolated in a screen for proteins that could bind the SH3 domain of the Crk proto-oncogene product. The carboxy-terminus of the C3G protein displays significant sequence similarity to Ras-GRF/Cdc25Mm and mSos and can substitute for Cdc25 function in *S. cerevisiae*. These observations strongly suggest that C3G is a GEF for Ras and is involved in the regulation of Ras signaling through Crk. The C3G gene maps to human chromosome 9q34.13 in proximity to the gene that encodes c-Abl, a proto-oncogene that regulates Crk.

CHROMOSOMAL LOCATION

Genetic locus: RAPGEF1 (human) mapping to 9q34.13; Rapgef1 (mouse) mapping to 2 B.

SOURCE

C3G (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of C3G 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.

APPLICATIONS

C3G (H-300) is recommended for detection of C3G 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for C3G siRNA (h): sc-29863, C3G siRNA (m): sc-29864, C3G shRNA Plasmid (h): sc-29863-SH, C3G shRNA Plasmid (m): sc-29864-SH, C3G shRNA (h) Lentiviral Particles: sc-29863-V and C3G shRNA (m) Lentiviral Particles: sc-29864-V.

Molecular Weight of C3G: 121 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or KNRK whole cell lysate: sc-2214.

STORAGE

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

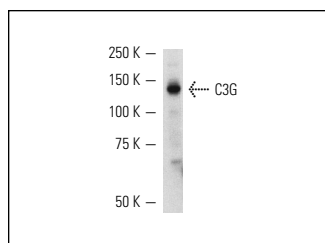
PROTOCOLS

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

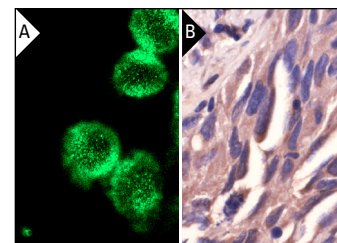
RESEARCH USE

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

DATA



C3G (H-300): sc-15359. Western blot analysis of C3G expression in HeLa whole cell lysate.



C3G (H-300): sc-15359. Immunofluorescence staining of methanol-fixed HeLa cells (A) and immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tumor tissue (B) showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

- Guerrero, C., et al. 2004. C3G-mediated suppression of oncogene-induced focus formation in fibroblasts involves inhibition of ERK activation, cyclin A expression and alterations of anchorage-independent growth. *Oncogene* 23: 4885-4893.
- Jain, N., et al. 2007. Tumor necrosis factor- α -induced caspase-1 gene expression. Role of p73. *FEBS J.* 274: 4396-4407.
- Peterson, M.E., et al. 2008. Inhibitory receptor signaling via tyrosine phosphorylation of the adaptor Crk. *Immunity* 29: 578-588.
- Voss, A.K., et al. 2008. C3G regulates cortical neuron migration, preplate splitting and radial glial cell attachment. *Development* 135: 2139-2149.
- Wang, H., et al. 2010. The role of Crk/Dock180/Rac1 pathway in the malignant behavior of human ovarian cancer cell SKOV3. *Tumour Biol.* 31: 59-67.
- Gutiérrez-Uzquiza, A., et al. 2010. C3G down-regulates p38 MAPK activity in response to stress by Rap-1 independent mechanisms: involvement in cell death. *Cell. Signal.* 22: 533-542.
- Cheerathodi, M., et al. 2011. Identification of CrkL-SH3 binding proteins from embryonic murine brain: implications for Reelin signaling during brain development. *J. Proteome Res.* 10: 4453-4462.
- Gutiérrez-Herrero, S., et al. 2012. C3G transgenic mouse models with specific expression in platelets reveal a new role for C3G in platelet clotting through its GEF activity. *Biochim. Biophys. Acta* 1823: 1366-1377.
- Ferrando, I.M., et al. 2012. Identification of targets of c-Src tyrosine kinase by chemical complementation and phosphoproteomics. *Mol. Cell. Proteomics* 11: 355-369.

MONOS
Satisfaction
Guaranteed

Try **C3G (G-4): sc-17840** or **C3G (F-5): sc-376992**, our highly recommended monoclonal alternatives to C3G (H-300).