

RGNEF (T-15): sc-161184

BACKGROUND

The Ras superfamily of GTPases can be subdivided into the Ras, Rho/Rac, Sar, Rab, Arf, Rap and Ran subfamilies, all of which control multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling and cell growth. The Ras superfamily of GTPases function as regulated switches that toggle between a biologically active GTP-bound and an inactive GDP-bound form. This activation is catalyzed by guanine nucleotide exchange factors (GEFs). RGNEF (Rho-guanine nucleotide exchange factor), also known as p190RhoGEF, is a 1,705 amino acid protein that functions as a Rho A-specific GEF, regulating signaling pathways downstream of growth factor receptors (GFR) and integrins. Localized to both the cytoplasm and the cell membrane, RGNEF exists as a homooligomer that, in addition to functioning as a Rho A-specific GEF, plays an important role in cell motility, apoptosis and dendritic morphogenesis. Four isoforms of RGNEF exist due to alternative splicing events.

REFERENCES

1. Meyer, D., et al. 1999. Interaction of c-Jun amino-terminal kinase interacting protein-1 with p190RhoGEF and its localization in differentiated neurons. *J. Biol. Chem.* 274: 35113-35118.
2. van Horck, F.P., et al. 2001. Characterization of p190RhoGEF, a Rho A-specific guanine nucleotide exchange factor that interacts with microtubules. *J. Biol. Chem.* 276: 4948-4956.
3. Zhai, J., et al. 2001. Identification of a novel interaction of 14-3-3 with p190RhoGEF. *J. Biol. Chem.* 276: 41318-41324.
4. Ge, W., et al. 2002. Binding of p190RhoGEF to a destabilizing element on the light neurofilament mRNA is competed by BC1 RNA. *J. Biol. Chem.* 277: 42701-42705.
5. Wu, J., et al. 2003. Cytoplasmic retention sites in p190RhoGEF confer anti-apoptotic activity to an EGFP-tagged protein. *Brain Res. Mol. Brain Res.* 117: 27-38.

CHROMOSOMAL LOCATION

Genetic locus: RGNEF (human) mapping to 5q13.2; Rgnef (mouse) mapping to 13 D1.

SOURCE

RGNEF (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RGNEF 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-161184 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

RGNEF (T-15) is recommended for detection of RGNEF 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), 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).

RGNEF (T-15) is also recommended for detection of RGNEF in additional species, including equine, canine and porcine.

Suitable for use as control antibody for RGNEF siRNA (h): sc-92013, RGNEF siRNA (m): sc-152837, RGNEF shRNA Plasmid (h): sc-92013-SH, RGNEF shRNA Plasmid (m): sc-152837-SH, RGNEF shRNA (h) Lentiviral Particles: sc-92013-V and RGNEF shRNA (m) Lentiviral Particles: sc-152837-V.

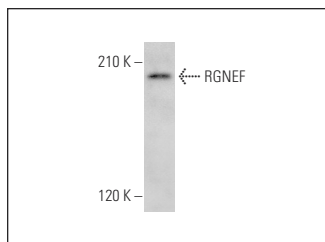
Molecular Weight of RGNEF: 190 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185.

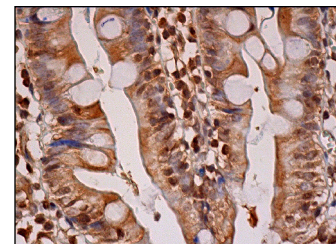
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



RGNEF (T-15): sc-161184. Western blot analysis of RGNEF expression in Neuro-2A whole cell lysate.



RGNEF (T-15): sc-161184. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic and nuclear staining of glandular cells.

RESEARCH USE

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

PROTOCOLS

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