SANTA CRUZ BIOTECHNOLOGY, INC.

GEFT (G-14): sc-161637

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GEFT (guanine nucleotide exchange factor GEFT), also known as p63RhoGEF or Rho A/Rac/Cdc42 exchange factor, is a 580 amino acid cytoplasmic protein that is highly expressed in excitable tissues such as brain, heart and muscle, and weakly expressed in small intestine, colon, liver, placenta and lung. GEFT may play a role in Actin cytoskeleton reorganization in different tissues since its activation induces formation of Actin stress fibers. GEFT works as a guanine nucleotide exchange factor for the Rho family of small GTPases and links specifically to $G_{\alpha q}$/11-coupled receptors in Rho A activation. GEFT is an important regulator of processes involved in axon and dendrite formation. Involved in skeletal myogenesis, GEFT seems to be an exchange factor primarily for Rac 1 in neurons. Existing as two alternatively spliced variants, GEFT contains a DH (DBL-homology) domain and a PH domain.

REFERENCES

1. Guo, X., et al. 2003. A Rac/Cdc42-specific exchange factor, GEFT, induces cell proliferation, transformation, and migration. J. Biol. Chem. 278: 13207-13215.
2. Bryan, B., et al. 2004. GEFT, a Rho family guanine nucleotide exchange factor, regulates neurite outgrowth and dendritic spine formation. J. Biol. Chem. 279: 45824-45832.
3. Lutz, S., et al. 2004. p63RhoGEF and GEFT are Rho-specific guanine nucleotide exchange factors encoded by the same gene. Naunyn Schmiedebergs Arch. Pharmacol. 369: 540-546.
4. Lutz, S., et al. 2005. The guanine nucleotide exchange factor p63RhoGEF, a specific link between G_q/11-coupled receptor signaling and Rho A. J. Biol. Chem. 280: 11134-11139.
5. Bryan, B.A., et al. 2005. Modulation of muscle regeneration, myogenesis, and adipogenesis by the Rho family guanine nucleotide exchange factor GEFT. Mol. Cell. Biol. 25: 11089-11101.
6. Bryan, B.A., et al. 2006. The Rho-family guanine nucleotide exchange factor GEFT enhances retinoic acid- and cAMP-induced neurite outgrowth. J. Neurosci. Res. 83: 1151-1159.
7. Rojas, R.J., et al. 2007. $G_{\alpha q}$ directly activates p63RhoGEF and Trio via a conserved extension of the Dbl homology-associated pleckstrin homology domain. J. Biol. Chem. 282: 29201-29210.
8. Swenson-Fields, K.I., et al. 2008. MLK3 limits activated $G_{\alpha q}$ signaling to Rho by binding to p63RhoGEF. Mol. Cell 32: 43-56.
9. Smith, T.K., et al. 2008. BVES directly interacts with GEFT, and controls cell shape and movement through regulation of Rac1/Cdc42 activity. Proc. Natl. Acad. Sci. USA 105: 8298-8303.

CHROMOSOMAL LOCATION

Genetic locus: GEFT (human) mapping to 12q13.3; D10Ertd610e (mouse) mapping to 10 D3.

STORAGE

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

SOURCE

GEFT (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GEFT 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-161637 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

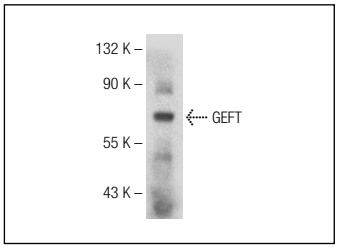
GEFT (G-14) is recommended for detection of GEFT of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GEFT siRNA (h): sc-95849, GEFT siRNA (m): sc-145379, GEFT shRNA Plasmid (h): sc-95849-SH, GEFT shRNA Plasmid (m): sc-145379-SH, GEFT shRNA (h) Lentiviral Particles: sc-95849-V and GEFT shRNA (m) Lentiviral Particles: sc-145379-V.

Molecular Weight of GEFT isoforms: 63 kDa.

Positive Controls: mouse skeletal muscle tissue extract.

DATA



GEFT (G-14): sc-161637. Western blot analysis of GEFT expression in mouse skeletal muscle tissue extract.

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.