SANTA CRUZ BIOTECHNOLOGY, INC.

GEFT siRNA (m): sc-145379

BACKGROUND

GEFT (guanine nucleotide exchange factor GEFT), also known as p63RhoGEF or RhoA/RAC/CDC42 exchange factor, is a 580 amino acid cytoplasmic protein that are 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 Rho family of small GTPases and links specifically to $G_{\alpha\ q}$/11-coupled receptors to 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 RhoA. 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.

CHROMOSOMAL LOCATION

Genetic locus: Arhgef25 (mouse) mapping to 10 D3.

PRODUCT

GEFT siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GEFT shRNA Plasmid (m): sc-145379-SH and GEFT shRNA (m) Lentiviral Particles: sc-145379-V as alternate gene silencing products.

For independent verification of GEFT (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-145379A, sc-145379B and sc-145379C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

GEFT siRNA (m) is recommended for the inhibition of GEFT expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GEFT gene expression knockdown using RT-PCR Primer: GEFT (m)-PR: sc-145379-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

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