SANTA CRUZ BIOTECHNOLOGY, INC.

PLEKHG2 siRNA (h): sc-97423

BACKGROUND

PLEKHG2 (pleckstrin homology domain containing, family G (with RhoGef domain) member 2), also known as CLG (common-site lymphoma/leukemia guanine nucleotide exchange factor) or FLJ00018, is a 1,386 amino acid protein containing a single DH (DBL-homology) domain and a PH domain. Existing as three alternatively spliced isoforms, PLEKHG2 may be a transforming oncogene with exchange activity for Cdc42. PLEKHG2 is activated by binding to the β and γ subunits of the heterotrimeric guanine nucleotide-binding protein (G protein) and acts a guanine-nucleotide exchange factor (GEF) for Rac 1 and Cdc42. The gene encoding PLEKHG2 maps to human chromosome 19, which consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes.

REFERENCES

1. Dowler, S., et al. 2000. Identification of pleckstrin-homology-domain-containing proteins with novel phosphoinositide-binding specificities. Biochem. J. 351: 19-31.
2. Himmel, K.L., et al. 2002. Activation of clg, a novel dbl family guanine nucleotide exchange factor gene, by proviral insertion at evi24, a common integration site in B cell and myeloid leukemias. J. Biol. Chem. 277: 13463-13472.
3. Niu, J., et al. 2003. G Protein βγ subunits stimulate p114RhoGEF, a guanine nucleotide exchange factor for Rho A and Rac 1: regulation of cell shape and reactive oxygen species production. Circ. Res. 93: 848-856.
4. Siderovski, D.P. and Willard, F.S. 2005. The GAPs, GEFs, and GDIs of heterotrimeric G protein α subunits. Int. J. Biol. Sci. 1: 51-66.
5. Ueda, H., et al. 2008. Heterotrimeric G protein βγ subunits stimulate FLJ00018, a guanine nucleotide exchange factor for Rac 1 and Cdc42. J. Biol. Chem. 283: 1946-1953.

CHROMOSOMAL LOCATION

Genetic locus: PLEKHG2 (human) mapping to 19q13.2.

PRODUCT

PLEKHG2 siRNA (h) 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 PLEKHG2 shRNA Plasmid (h): sc-97423-SH and PLEKHG2 shRNA (h) Lentiviral Particles: sc-97423-V as alternate gene silencing products.

For independent verification of PLEKHG2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-97423A, sc-97423B and sc-97423C.

PROTOCOLS

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

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

PLEKHG2 siRNA (h) is recommended for the inhibition of PLEKHG2 expression in human 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 PLEKHG2 gene expression knockdown using RT-PCR Primer: PLEKHG2 (h)-PR: sc-97423-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.