SANTA CRUZ BIOTECHNOLOGY, INC.

SPHKAP siRNA (r): sc-270582

BACKGROUND

SPHKAP (Sphk1 interactor, AKAP domain containing protein), also known as SKIP (sphingosine kinase type 1-interacting protein), is a 1,700 amino acid cytoplasmic anchoring protein that mediates the subcellular compartmentation of cAMP-dependent protein kinase (PKA II). SPHKAP may act as a converging factor linking cAMP and sphingosine signaling pathways and may play a role in regulating the modulation of SphK1. A member of the AKAP 3 family, SPHKAP contains a PKA RII-binding site and is expressed in brain, ovary, spleen and heart. SPHKAP exists as two alternatively spliced isoforms and is encoded by a gene located on human chromosome 2q36.3.

REFERENCES

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2. Yamanaka, M., et al. 2004. Sphingosine kinase 1 (SPHK1) is induced by transforming growth factor-β and mediates TIMP-1 up-regulation. J. Biol. Chem. 279: 53994-54001.
3. Jeng, Y.J., et al. 2007. Progesterone-induced sphingosine kinase-1 expression in the rat uterus during pregnancy and signaling consequences. Am. J. Physiol. Endocrinol. Metab. 292: E1110-E1121.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611646. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. You, B., et al. 2007. Activation of sphingosine kinase-1 mediates inhibition of vascular smooth muscle cell apoptosis by hyperglycemia. Diabetes 56: 1445-1453.
6. Anelli, V., et al. 2008. Sphingosine kinase 1 is up-regulated during hypoxia in U87MG glioma cells. Role of hypoxia-inducible factors 1 and 2. J. Biol. Chem. 283: 3365-3375.
7. Kovanich, D., et al. 2010. Sphingosine kinase interacting protein is an A-kinase anchoring protein specific for type I cAMP-dependent protein kinase. Chembiochem 11: 963-971.

CHROMOSOMAL LOCATION

Genetic locus: Sphkap (rat) mapping to 9q34.

PRODUCT

SPHKAP siRNA (r) 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 SPHKAP shRNA Plasmid (r): sc-270582-SH and SPHKAP shRNA (r) Lentiviral Particles: sc-270582-V as alternate gene silencing products.

For independent verification of SPHKAP (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270582A, sc-270582B and sc-270582C.

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

SPHKAP siRNA (r) is recommended for the inhibition of SPHKAP expression in rat 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 SPHKAP gene expression knockdown using RT-PCR Primer: SPHKAP (r)-PR: sc-270582-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.