

α -protein kinase 1 siRNA (h): sc-89309

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. α -protein kinase 1, also known as ALPK1, LAK or KIAA1527, is a 1,244 amino acid protein that contains one α -type protein kinase domain and belongs to the protein kinase superfamily. Expressed at high levels in liver, α -protein kinase 1 recognizes and phosphorylates specific phosphorylation sites that are surrounded by peptides which have an α -helical conformation. One of the targets of α -protein kinase 1 is Myosin I and, via its ability to phosphorylate Myosin I, α -protein kinase 1 is thought to play an important role in the apical trafficking of vesicles carrying raft-associated sucrase-isomaltase (SI).

REFERENCES

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3. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607347. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Yamada, S., et al. 2004. Expression profiling and differential screening between hepatoblastomas and the corresponding normal livers: identification of high expression of the PLK1 oncogene as a poor-prognostic indicator of hepatoblastomas. *Oncogene* 23: 5901-5911.
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CHROMOSOMAL LOCATION

Genetic locus: ALPK1 (human) mapping to 4q25.

PRODUCT

α -protein kinase 1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see α -protein kinase 1 shRNA Plasmid (h): sc-89309-SH and α -protein kinase 1 shRNA (h) Lentiviral Particles: sc-89309-V as alternate gene silencing products.

For independent verification of α -protein kinase 1 (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-89309A, sc-89309B and sc-89309C.

RESEARCH USE

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

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

α -protein kinase 1 siRNA (h) is recommended for the inhibition of α -protein kinase 1 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 μ M in 66 μ l. 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 α -protein kinase 1 gene expression knockdown using RT-PCR Primer: α -protein kinase 1 (h)-PR: sc-89309-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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