

SNRK siRNA (h): sc-78359

BACKGROUND

The phosphorylation and dephosphorylation of proteins, catalysed by protein kinases and phosphatases, is the major mechanism for the transduction of intracellular signals in eukaryotic organisms. SNRK (SNF related kinase), also known as HSNFRK, is a 765 amino acid nuclear protein and a member of the sucrose nonfermenting (SNF)-related kinase family of serine/threonine kinases. Expressed in hematopoietic progenitor cells and leukemic cell lines, SNRK may play a role in hematopoietic cell proliferation or differentiation. Found at low levels in the testis and activated by LKB1, SNRK may be a regulator of low K⁺-induced apoptosis of cerebellar granule neurons. The gene encoding SNRK maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

1. Becker, W., et al. 1996. Molecular cloning and characterization of a novel mammalian protein kinase harboring a homology domain that defines a subfamily of serine/threonine kinases. *Eur. J. Biochem.* 235: 736-743.
2. Yoshida, K., et al. 2000. SNRK, a member of the SNF1 family, is related to low K⁺-induced apoptosis of cultured rat cerebellar granule neurons. *Brain Res.* 873: 274-282.
3. Kertesz, N., et al. 2002. Cloning and characterization of human and mouse SNRK sucrose non-fermenting protein (SNF1)-related kinases. *Gene* 294: 13-24.
4. Jaleel, M., et al. 2005. Identification of the sucrose non-fermenting related kinase SNRK, as a novel LKB1 substrate. *FEBS Lett.* 579: 1417-1423.
5. Kameshita, I., et al. 2005. Expression cloning of a variety of novel protein kinases in *Lotus japonicus*. *J. Biochem.* 137: 33-39.

CHROMOSOMAL LOCATION

Genetic locus: SNRK (human) mapping to 3p22.1.

PRODUCT

SNRK 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 SNRK shRNA Plasmid (h): sc-78359-SH and SNRK shRNA (h) Lentiviral Particles: sc-78359-V as alternate gene silencing products.

For independent verification of SNRK (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-78359A, sc-78359B and sc-78359C.

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.

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

SNRK siRNA (h) is recommended for the inhibition of SNRK 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.

GENE EXPRESSION MONITORING

SNRK (A-3): sc-398557 is recommended as a control antibody for monitoring of SNRK gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SNRK gene expression knockdown using RT-PCR Primer: SNRK (h)-PR: sc-78359-PR (20 μl, 477 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.