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- Mindermengenzuschlag
- Trockeneiszuschlag
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SANTA CRUZ BIOTECHNOLOGY, INC.

QSK siRNA (m): sc-141570

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. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. The salt-inducible kinases (SIKs) are a family of related serine-threonine kinases and are key enzymes that modulate important processes such as steroid hormone biosynthesis and Insulin signaling in adipocytes. QSK, also known as L19 or SIK3 (salt-inducible kinase 3), is a 1,263 amino acid cytoplasmic protein belonging to the protein kinase superfamily, CAMK Ser/Thr protein kinase family and the AMPK subfamily. Ubiquitously expressed, QSK consists of one protein kinase domain and a UBA domain. QSK is activated by 14-3-3 ω and utilizes magnesium as a cofactor. QSK exists as three alternatively spliced isoforms.

REFERENCES

1. Lin, X., et al. 2000. SIK (Salt-inducible kinase): regulation of ACTH-mediated steroidogenic gene expression and nuclear/cytosol redistribution. Endocr. Res. 26: 995-1002.
2. Lin, X., et al. 2001. Salt-inducible kinase is involved in the ACTH/cAMP-dependent protein kinase signaling in Y1 mouse adrenocortical tumor cells. Mol. Endocrinol. 15: 1264-1276.
3. Doi, J., et al. 2002. Salt-inducible kinase represses cAMP-dependent protein kinase-mediated activation of human cholesterol side chain cleavage cytochrome P450 promoter through the CREB basic leucine zipper domain. J. Biol. Chem. 277: 15629-15637.
4. Takemori, H., et al. 2003. Salt-inducible kinase-mediated regulation of steroidogenesis at the early stage of ACTH-stimulation. J. Steroid Biochem. Mol. Biol. 85: 397-400.
5. Katoh, Y., et al. 2004. Salt-inducible kinase (SIK) isoforms: their involvement in steroidogenesis and adipogenesis. Mol. Cell. Endocrinol. 217: 109-112.

CHROMOSOMAL LOCATION

Genetic locus: Sik3 (mouse) mapping to 9 A5.2.

PRODUCT

QSK siRNA (m) is a pool of 2 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 QSK shRNA Plasmid (m): sc-141570-SH and QSK shRNA (m) Lentiviral Particles: sc-141570-V as alternate gene silencing products.

For independent verification of QSK (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-141570A and sc-141570B.

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

QSK siRNA (m) is recommended for the inhibition of QSK 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.

GENE EXPRESSION MONITORING

QSK (C-2): sc-515408 is recommended as a control antibody for monitoring of QSK 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 QSK gene expression knockdown using RT-PCR Primer: QSK (m)-PR: sc-141570-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.