

JIK siRNA (h): sc-60871

BACKGROUND

JNK/SAPK-inhibitory kinase (JIK) is a serine/threonine kinase that belongs to the STE20 kinase family. The kinase domain of JIK is similar to the GCK-like subfamily of STE20 kinases, while its non-catalytic domain is similar to a *Caenorhabditis elegans* putative serine/threonine kinase, SULU. JIK inhibits c-Jun NH₂-terminal kinase/stress-activated protein kinase (JNK/SAPK), which is activated by many types of cellular stresses and extracellular signals. JNK/SAPK regulates cell survival, apoptosis and proliferation in mouse development. JIK is negatively regulated by epidermal growth factor (EGF) and tyrosine kinase receptors. In unstimulated human T cells, JIK is cytoplasmic, whereas in the continuously dividing human T cells of Jurkat lymphoma, JIK is nuclear.

REFERENCES

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3. Yoneda, T., et al. 2001. Activation of caspase-12, an endoplasmic reticulum (ER) resident caspase, through tumor necrosis factor receptor-associated factor 2-dependent mechanism in response to the ER stress. *J. Biol. Chem.* 276: 13935-13940.
4. Yustein, J.T., et al. 2003. Comparative studies of a new subfamily of human Ste20-like kinases: homodimerization, subcellular localization, and selective activation of MKK3 and p38. *Oncogene* 22: 6129-6141.
5. Hartmann, T.B., et al. 2004. SEREX identification of new tumour-associated antigens in cutaneous T-cell lymphoma. *Br. J. Dermatol.* 150: 252-258.
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CHROMOSOMAL LOCATION

Genetic locus: TAOK3 (human) mapping to 12q24.23.

PRODUCT

JIK 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 JIK shRNA Plasmid (h): sc-60871-SH and JIK shRNA (h) Lentiviral Particles: sc-60871-V as alternate gene silencing products.

For independent verification of JIK (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-60871A, sc-60871B and sc-60871C.

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

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

GENE EXPRESSION MONITORING

JIK (C-3): sc-377083 is recommended as a control antibody for monitoring of JIK 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 JIK gene expression knockdown using RT-PCR Primer: JIK (h)-PR: sc-60871-PR (20 μ l). 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.