SANTA CRUZ BIOTECHNOLOGY, INC.

SOCS-1 siRNA (h): sc-40996

BACKGROUND

The SOCS (suppressor of cytokine signaling) gene family consists of a group of proteins that negatively regulate cytokine signal transduction. The SOCS family proteins contain a central SH2 domain and a carboxy-terminal region termed the "SOCS box". The SOCS-1 (also called SSI-1 and JAB), SOCS-2 (also called SSI-2 and CIS2) and SOC-3 (also called SSI-3 and CIS3) genes are known to be upregulated by IL-6 and other cytokines. SOCS-4, SOCS-5, SOCS-6 and SOCS-7 were identified by their sequence homology with the SOCS box. CIS (for cytokine-inducible SH2-containing protein) is also a member of the SOCS family.

CHROMOSOMAL LOCATION

Genetic locus: SOCS1 (human) mapping to 16p13.13.

PRODUCT

SOCS-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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SOCS-1 shRNA Plasmid (h): sc-40996-SH and SOCS-1 shRNA (h) Lentiviral Particles: sc-40996-V as alternate gene silencing products.

For independent verification of SOCS-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-40996A, sc-40996B and sc-40996C.

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

SOCS-1 siRNA (h) is recommended for the inhibition of SOCS-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 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

SOCS-1 (E-9): sc-518028 is recommended as a control antibody for monitoring of SOCS-1 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SOCS-1 gene expression knockdown using RT-PCR Primer: SOCS-1 (h)-PR: sc-40996-PR (20 µl, 473 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

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4. Takahashi, K., et al. 2013. Regulation of eotaxin-3/CC chemokine ligand 26 expression by T helper type 2 cytokines in human colonic myofibroblasts. Clin. Exp. Immunol. 173: 323-331.
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6. Xu, G., et al. 2014. MiR-221 accentuates IFN's anti-HCV effect by down-regulating SOCS-1 and SOCS-3. Virology 462-463: 343-350.
7. Kim, C., et al. 2015. Artesunate suppresses tumor growth and induces apoptosis through the modulation of multiple oncogenic cascades in a chronic myeloid leukemia xenograft mouse model. Oncotarget 6: 4020-4035.
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9. Fujimoto, T., et al. 2016. Eotaxin-3 (CCL26) expression in human pancreatic myofibroblasts. Pancreas 45: 420-424.
10. Sonzogni, O., et al. 2019. Efficient human cytomegalovirus replication in primary endothelial cells is SOCS-3 dependent. Intervirology 62: 80-89.
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RESEARCH USE

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