SANTA CRUZ BIOTECHNOLOGY, INC.

SODD siRNA (h): sc-106839

BACKGROUND

The cytokine TNF (tumor necrosis factor) signals through the TNF-R1 receptor to activate various cellular pathways, including apoptosis and NFκB activation. TNF binding induces receptor aggregation, resulting in the recruitment of TRADD, FADD, TRAF2 and RIP to the intracellular "death" domain of the receptor complex, which in turn activates signaling pathways including apoptosis and NFκB activation. SODD, for silencer of death domains, was found to be associated with the intracellular "death" domain of TNF-R1 in the absence of TNF stimulation. TNF treatment results in the release of SODD from TNF-R1, allowing the recruitment of TRADD and TRAF2 to the receptor complex. Thus, SODD may play a role in preventing spontaneous signaling by death-domain receptors, in the absence of ligand.

REFERENCES

1. Tartaglia, L.A., et al. 1992. Two TNF receptors. Immunol. Today 13: 151-153.
2. Banner, D.W., et al. 1993. Crystal structure of the soluble human 55 kd TNF receptor-human TNF β complex: implications for TNF receptor activation. Cell 73: 431-445.
3. Tartaglia, L.A., et al. 1993. A novel domain within the 55 kd TNF receptor signals cell death. Cell 74: 845-853.
4. Hsu, H., et al. 1995. The TNF receptor 1-associated protein TRADD signals cell death and NFκB activation. Cell 81: 495-504.
5. Hsu, H., et al. 1996. TRADD-TRAF2 and TRADD-FADD interactions define two distinct TNF receptor 1 signal transduction pathways. Cell 84: 299-308.
6. Hsu, H., et al. 1996. TNF-dependent recruitment of the protein kinase RIP to the TNF receptor-1 signaling complex. Immunity 4: 387-396.
7. Jiang, Y., et al. 1999. Prevention of constitutive TNF receptor 1 signaling by silencer of death domains. Science 283: 543-546.

CHROMOSOMAL LOCATION

Genetic locus: BAG4 (human) mapping to 8p11.23.

PRODUCT

SODD 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 SODD shRNA Plasmid (h): sc-106839-SH and SODD shRNA (h) Lentiviral Particles: sc-106839-V as alternate gene silencing products.

For independent verification of SODD (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-106839A, sc-106839B and sc-106839C.

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

SODD siRNA (h) is recommended for the inhibition of SODD 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

SODD (C-12): sc-166581 is recommended as a control antibody for monitoring of SODD 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 SODD gene expression knockdown using RT-PCR Primer: SODD (h)-PR: sc-106839-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.