

NALP5 siRNA (h): sc-61145

BACKGROUND

NACHT-, LRR- and PYD-containing protein (NALP) family function in the regulation of apoptosis and inflammatory signaling pathways. Members of the NALP family (also designated Pyrin-containing APAF1-like proteins) include NALP1 through NALP11. Several family members, such as NALP1, NALP2, NALP3 and NALP6 influence NF κ B and caspase pathways as components of the inflammasome. NALP5 (also designated MATER) is a maternal effect protein required for early embryonic development. Most short NALPs, such as NALP5, have a C-terminal leucine-rich repeat (LRR) region, an N-terminal pyrin (MEFV) domain (PYD), followed by a NACHT domain and a NACHT-associated domain (NAD). The predicted 1,200 amino acid human NALP5 protein shares 53% sequence identity with the mouse protein. The gene which encodes the human NALP5 protein maps to chromosome 19q13.43.

REFERENCES

1. Tong, Z.B., et al. 2002. A human homologue of mouse MATER, a maternal effect gene essential for early embryonic development. *Hum. Reprod.* 17: 903-911.
2. Drygin, D., et al. 2005. Induction of oligonucleotides in lung epithelial carcinoma cells. *Oligonucleotides* 15: 105-118.
3. Panichkul, P.C., et al. 2005. Recurrent biparental hydatidiform mole: additional evidence for a 1.1-Mb locus in 19q13.4 and candidate gene analysis. *J. Soc. Gynecol. Investig.* 12: 376-383.
4. Ponsuksili, S., et al. 2006. Bovine NALP5, in adult tissues, oocytes, and preimplantation embryos. *Biol. Reprod.* 74: 577-584.

CHROMOSOMAL LOCATION

Genetic locus: NLRP5 (human) mapping to 19q13.43.

PRODUCT

NALP5 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 NALP5 shRNA Plasmid (h): sc-61145-SH and NALP5 shRNA (h) Lentiviral Particles: sc-61145-V as alternate gene silencing products.

For independent verification of NALP5 (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-61145A, sc-61145B and sc-61145C.

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

NALP5 siRNA (h) is recommended for the inhibition of NALP5 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

NALP5 (C-3): sc-514998 is recommended as a control antibody for monitoring of NALP5 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 NALP5 gene expression knockdown using RT-PCR Primer: NALP5 (h)-PR: sc-61145-PR (20 μ l, 557 bp). 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.