SANTA CRUZ BIOTECHNOLOGY, INC.

NALP14 siRNA (h): sc-62659

BACKGROUND

NALP14 (NACHT, LRR and PYD domains-containing protein 14) is a testis specific nucleotide binding protein. It is a member of the NLRP family and contains one DAPIN (Pyrin, AIM, ASC and death domain-like (PAAD)) domain, 11 LRR (leucine-rich) repeats and one NACHT domain. NALP proteins most often act as an intracellular receptors involved in innate immunity. NALP14 has been linked to spermatogenesis but more likely functions as an inflammasome component. The inflammasome comprises a NALP member and an ASC adapter that ensures caspase-1 recruitment to the inflammasome. Different types of inflammasomes are stimulated by a wide variety of microbial, foreign and endogenous materials.

REFERENCES

1. Chamaillard, M., et al. 2003. NODs, NALPs and NAIP: intracellular regulators of bacterial-induced inflammation. Cell. Microbiol. 5: 581-592.
2. Tschopp, J., et al. 2003. NALPs: a novel protein family involved in inflammation. Nat. Rev. Mol. Cell Biol. 4: 95-104.
3. Horikawa, M., et al. 2005. The mouse germ-cell-specific leucine-rich repeat protein NALP1.a member of the NACHT nucleoside triphosphatase family. Biol. Reprod. 72: 879-889.
4. Kufer, T.A., et al. 2005. NACHT-LRR proteins (NLRs) in bacterial infection and immunity. Trends Microbiol. 13: 381-388.
5. Westerveld, G.H., et al. 2006. Mutations in the testis-specific NALP14 gene in men suffering from spermatogenic failure. Hum. Reprod. 21: 3178-3184.
6. Martinon, F. 2007. Orchestration of pathogen recognition by inflammasome diversity: Variations on a common theme. Eur. J. Immunol. 37: 3003-3006.
7. Pétrilli, V. and Martinon, F. 2007. The inflammasome, autoinflammatory diseases, and gout. Joint Bone Spine 74: 571-576.
8. Martinon, F., et al. 2007. NALP inflammasomes: a central role in innate immunity. Semin. Immunopathol. 29: 213-229.

CHROMOSOMAL LOCATION

Genetic locus: NLRP14 (human) mapping to 11p15.4.

PRODUCT

NALP14 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 NALP14 shRNA Plasmid (h): sc-62659-SH and NALP14 shRNA (h) Lentiviral Particles: sc-62659-V as alternate gene silencing products.

For independent verification of NALP14 (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-62659A, sc-62659B and sc-62659C.

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

NALP14 siRNA (h) is recommended for the inhibition of NALP14 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

NALP14 (H-10): sc-398068 is recommended as a control antibody for monitoring of NALP14 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 NALP14 gene expression knockdown using RT-PCR Primer: NALP14 (h)-PR: sc-62659-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.