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SANTA CRUZ BIOTECHNOLOGY, INC.

NALP2 siRNA (m): sc-149811

BACKGROUND

NALP2 (PAN1, PYPAF2) is a 1,062 amino acid protein that catalyzes the suppression of TNF- and CD40-induced NFKB1 activity at the level of the IKK complex by inhibiting NFKBIA degradation induced by TNF. When associated with PYCARD, NALP2 activates CASP1, which leads to the secretion of mature proinflammatory cytokine IL1B. As a putative member of the inflammasome, a protein complex which also includes PYCARD, CARD8 and CASP1, NALP2 may be involved in the activation of proinflammatory caspases. NAPL2 shows predominant expression in lung, placenta and thymus tissues, and demonstrates lower levels of expression in ovary, intestine and brain tissues. NAPL2 contains 1 DAPIN domain, 9 LRR (leucine-rich) repeats and 1 NACHT domain. The DAPIN domain is crucial for the suppression of NFKB1 activation and for inducing IL1B secretion in collaboration with caspase-1.

REFERENCES

1. Moricca, G., et al. 1981. Neuroadenolysis of the pituitary. Acta Anaesthesiol. Belg. 32: 87-99.
2. Trouwborst, A., et al. 1984. Mechanism of neuroadenolysis of the pituitary for cancer pain control. Appl. Neurophysiol. 47: 97-110.
3. Yanagida, H., et al. 1984. Relief of cancer pain in man: alcohol-induced neuroadenolysis vs. electrical stimulation of the pituitary gland. Pain 19: 133-141.
4. Morimoto, M., et al. 1991. Diffusion of alcohol upon application of neuroadenolysis of the pituitary gland (NALP). An experimental study using HRP and WGA-HRP in the cat. Fukuoka Igaku Zasshi 82: 475-479.
5. Bruey, J.M., et al. 2004. PAN1/NALP2/PYPAF2, an inducible inflammatory mediator that regulates NFκB and caspase-1 activation in macrophages. J. Biol. Chem. 279: 51897-907.
6. Drygin, D., et al. 2005. Induction of Toll-like receptors and NALP/PAN/PYPAF family members by modified oligonucleotides in lung epithelial carcinoma cells. Oligonucleotides 15: 105-118.
7. Kinoshita, T., et al. 2005. PYPAF3, a PYRIN-containing APAF-1-like protein, is a feedback regular of casapase-1-dependent interleukin-1β secretion. J. Biol. Chem. 280: 21720-21725.

CHROMOSOMAL LOCATION

Genetic locus: Nlrp2 (mouse) mapping to 7 A1.

PRODUCT

NALP2 siRNA (m) 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 NALP2 shRNA Plasmid (m): sc-149811-SH and NALP2 shRNA (m) Lentiviral Particles: sc-149811-V as alternate gene silencing products.

For independent verification of NALP2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-149811A, sc-149811B and sc-149811C.

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

NALP2 siRNA (m) is recommended for the inhibition of NALP2 expression in mouse 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

NALP2 (H-4): sc-166584 is recommended as a control antibody for monitoring of NALP2 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 NALP2 gene expression knockdown using RT-PCR Primer: NALP2 (m)-PR: sc-149811-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Peng, H., et al. 2012. Nlrp2, a maternal effect gene required for early embryonic development in the mouse. PLoS ONE 7: e30344.

RESEARCH USE

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