SANTA CRUZ BIOTECHNOLOGY, INC.

Pyrin siRNA (h): sc-106466

BACKGROUND

Pyrin, also designated Marenostrin or Mediterranean fever protein, controls the inflammatory response in myelomonocytic cells in cytoskeletal organization. Defects in the gene coding for Pyrin may cause Mediterranean fever, a hereditary autosomal recessive disorder characterized by recurrent fever, serosal inflammation and pain in the chest or abdomen. Pyrin is expressed in peripheral blood leucocytes (particularly in mature granulocytes) but not in lymphocytes. It can also be detected in spleen, muscle, lung and in several myeloid leukemic, colon cancer and prostate cancer cell lines.

REFERENCES

1. Dode, C., et al. 2000. Mutations in the MEFV gene in a large series of patients with a clinical diagnosis of familial Mediterranean fever. Am. J. Med. Genet. 92: 241-246.
2. Papin, S., et al. 2000. Alternative splicing at the MEFV locus involved in familial Mediterranean fever regulates translocation of the marenostrin/Pyrin protein to the nucleus. Hum. Mol. Genet. 9: 3001-3009.
3. Centola, M., et al. 2000. The gene for familial Mediterranean fever, MEFV, is expressed in early leukocyte development and is regulated in response to inflammatory mediators. Blood 95: 3223-3231.
4. Aglipay, J.A., et al. 2003. A member of the Pyrin family, IFI-16, is a novel BRCA1-associated protein involved in the p53-mediated apoptosis pathway. Oncogene 22: 8931-8938.
5. Shoham, N.G., et al. 2003. Pyrin binds the PSTPIP1/CD2BP1 protein, defining familial Mediterranean fever and PAPA syndrome as disorders in the same pathway. Proc. Natl. Acad. Sci. USA 100: 13501-13506.

CHROMOSOMAL LOCATION

Genetic locus: MEFV (human) mapping to 16p13.3.

PRODUCT

Pyrin 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 Pyrin shRNA Plasmid (h): sc-106466-SH and Pyrin shRNA (h) Lentiviral Particles: sc-106466-V as alternate gene silencing products.

For independent verification of Pyrin (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-106466A, sc-106466B and sc-106466C.

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

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

Pyrin (C-11): sc-390938 is recommended as a control antibody for monitoring of Pyrin 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 Pyrin gene expression knockdown using RT-PCR Primer: Pyrin (h)-PR: sc-106466-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. Kim, S.K., et al. 2017. Carbon monoxide decreases interleukin-1β levels in the lung through the induction of Pyrin. Cell. Mol. Immunol. 14: 349-359.
2. Liu, Y.H., et al. 2018. The ATP-P2X7 signaling axis is an essential sentinel for intracellular *Clostridium difficile* pathogen-induced inflammasome activation. Front. Cell. Infect. Microbiol. 8: 84.

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.