SANTA CRUZ BIOTECHNOLOGY, INC.

# Cryopyrin siRNA (m): sc-45470

## BACKGROUND

Cryopyrin interacts selectively with apoptosis-associated specklike protein containing a CARD domain (ASC). This complex may function as an upstream activator of NFκB signaling and caspase-1 activation. The complex also inhibits TNFα induced activation and nuclear translocation of RelA/NFκB p65. Mutations in Cryopyrin and Pyrin proteins are responsible for several autoinflammatory disorders in humans, including familial cold autoinflammatory syndrome (FCAS), Muckle-Wells syndrome (MWS) and chronic infantile neurologic cutaneous and articular syndrome (CINCA).

## CHROMOSOMAL LOCATION

Genetic locus: Nlrp3 (mouse) mapping to 11 B1.3.

## PRODUCT

Cryopyrin 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 Cryopyrin shRNA Plasmid (m): sc-45470-SH and Cryopyrin shRNA (m) Lentiviral Particles: sc-45470-V as alternate gene silencing products.

For independent verification of Cryopyrin (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-45470A, sc-45470B and sc-45470C.

## 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

Cryopyrin siRNA (m) is recommended for the inhibition of Cryopyrin 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.

## RESEARCH USE

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

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cryopyrin gene expression knockdown using RT-PCR Primer: Cryopyrin (m)-PR: sc-45470-PR (20 µl, 464 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


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2. Cao, Z., et al. 2016. Exposure to nickel oxide nanoparticles induces pulmonary inflammation through NLRP3 inflammasome activation in rats. Int. J. Nanomedicine 11: 3331-3346.
3. Li, F., et al. 2018. NLRP3 deficiency accelerates pressure overload-induced cardiac remodeling via increased TLR4 expression. J. Mol. Med. 96: 1189-1202.
4. Molagoda, I.M.N., et al. 2019. Deoxynivalenol enhances IL-1β expression in BV2 microglial cells through activation of the NFκB pathway and the ASC/NLRP3 inflammasome. EXCLI J. 18: 356-369.
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6. Wang, X., et al. 2020. PCSK9 regulates pyroptosis via mtDNA damage in chronic myocardial ischemia. Basic Res. Cardiol. 115: 66.
7. Molagoda, I.M.N., et al. 2021. Anthocyanins from *Hibiscus syriacus* L. inhibit NLRP3 inflammasome in BV2 microglia cells by alleviating NFκB- and ER stress-induced $Ca^{2+}$ accumulation and mitochondrial Ros production. Oxid. Med. Cell. Longev. 2021: 1246491.
8. Chivero, E.T., et al. 2021. NLRP3 inflammasome blockade reduces cocaine-induced microglial activation and neuroinflammation. Mol. Neurobiol. 58: 2215-2230.
9. Sakai, T., et al. 2021. Effects of the cytoplasm and mitochondrial specific hydroxyl radical scavengers TA293 and mitoTA293 in bleomycin-induced pulmonary fibrosis model mice. Antioxidants 10: 1398.
10. Huang, Y., et al. 2022. miR-223 in exosomes from bone marrow mesenchymal stem cells ameliorates rheumatoid arthritis via downregulation of NLRP3 expression in macrophages. Mol. Immunol. 143: 68-76.
11. Lee, H.J., et al. 2022. Idebenone regulates Aβ and LPS-induced neurogliosis and cognitive function through inhibition of NLRP3 inflammasome/IL-1β axis activation. Front. Immunol. 13: 749336.
12. Khandekar, D., et al. 2022. Low-salt diet reduces anti-CTLA4 mediated systemic immune-related adverse events while retaining therapeutic efficacy against breast cancer. Biology 11: 810.


## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.