

NLRP3 Protein, Human (GST)

Cat. No.:	HY-P701027
Synonyms:	C1orf7; CIAS1; NALP3; PYPAF1; FCAS; FCU; MWS; NACHT; CLR1.1; Cryopyrin;
Species:	Human
Source:	E. coli
Accession:	Q96P20-2 (K131-V704)
Gene ID:	114548
Molecular Weight:	93.20 kDa

PROPERTIES

AA Sequence	<pre> KMKKDYRKKY RKYVRSRFQC IEDRNARLGE SVSLNKRYTR LRLIKEHRSQ QEREQELLA I GKTKTCESPV SPIKMELLFD PDDEHSEPVH TVVFQGAAG I GKTILARKMM LDWASGTLYQ DRFDYLFYIH CREVSLVTQR SLGDLIMSCC PDPNPPIHKI VRKPSRILFL MDGFDELQGA FDEHIGPLCT DWQKAERGDI LLSSLIRKKL LPEASLLITT RPVALEKLQH LLDHPRHVEI LGFSEAKRKE YFFKYFSDEA QARAAFSLIQ ENEVLFTMCF IPLVCWIVCT GLKQQMESGK SLAQTSKTTT AVYVFFLSSL LQPRGGSQEH GLCAHLWGLC SLAADGIWNQ KILFEESDLR NHGLQKADVS AFLRMNLFQK EVDCEKFYSF IHMTFQEFFA AMYYLLEEEK EGRTNVPGSR LKLPSRDVTV LLENYGKFEK GYLIFVVRFL FGLVNQERTS YLEKKLSCKI SQQIRLELLK WIEVKAKAKK LQIQPSQLEL FYCLYEMQEE DFFVQRAMDYF PKIEINLSTR MDHMVSSFCI ENCHRVESLS LGFLHNMPKE EEEEKEGRH LDMV </pre>
Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of 20 mM Tris, 500 mM NaCl, 10% glycerol, 2 mM DTT, pH 8.5.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background

NLRP3 protein serves as the sensor component of the NLRP3 inflammasome, orchestrating the activation of the inflammasome in response to various stimuli that compromise membrane integrity, leading to the secretion of inflammatory cytokines IL1B and IL18, as well as pyroptosis. In the presence of pathogens or damage-associated signals affecting membrane integrity, NLRP3 initiates the assembly of the inflammasome complex, comprising NLRP3, CASP1, and PYCARD/ASC. This results in the recruitment and activation of pro-caspase-1, which subsequently cleaves and activates IL1B, IL18, and gasdermin-D (GSDMD), promoting cytokine release and pyroptotic cell death. Activation stimuli include extracellular ATP, nigericin, reactive oxygen species, crystals, amyloid-beta fibers, and various particles or nanoparticles. Intriguingly, NLRP3 also plays a role in regulating the differentiation of T helper 2 (Th2) cells, contributing to Th2 cell-dependent processes such as asthma and tumor growth. During Th2 differentiation, NLRP3 is involved in optimal IRF4 binding to the IL4 promoter and IRF4-dependent IL4 transcription, highlighting its multifaceted functions beyond inflammasome activation.

Caution: Product has not been fully validated for medical applications. For research use only.

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