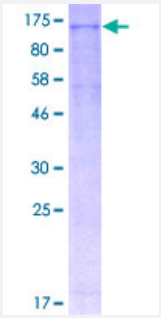
Full-Length

NLRP3 (Human) Recombinant Protein (P01)

Catalog # H00114548-P01 Size 2 ug

Applications



Specification

Product Description	Human NLRP3 full-length ORF (NP_004886.3, 1 a.a. - 1036 a.a.) recombinant protein with GST-tag at N-terminal.
Sequence	MKMASTRCKLARYLEDLEDVDLKKFKMHLEDYPPQKGCIPLPRGQTEKADHVDLATLMIDFNGE EKAWAMAVWIFAAINRRDLYEKAKRDEPKWGSDNARVSNPTVICQEDSIEEEWMGLLEYLSRISIC KMKKDYRKKYRKYVRSRFQCIEDRNARLGESVSLNKRYTRLRLIKEHRSQQEREQELLAIGKTKTC ESPVSPIKMELLFDPDDEHSEPVHTVVFQGAAGIGKTILARKMMLDWASGTLYQDRFDYLFYIHCR EVSLVTQRSLGDLIMSCCPDPNPPIHKIVRKPSRILFLMDGFDELQGAFDEHIGPLCTDWQKAERG DILLSSLIRKKLLPEASLLITTRPVALEKLQHLLDHPRHVEILGFSEAKRKEYFFKYFSDEAQARAAF SLIQENEVLFTMCFIPLVCWIVCTGLKQQMESGKSLAQTSKTTTAVYVFFLSSLLQPRGGSQEHGL CAHLWGLCSLAADGIWNQKILFEESDLRNHGLQKADVSAFLRMNLFQKEVDCEKFYSFIHMTFQE FFAAMYYLLEEEKEGRTNVPGSRLKLPSRDVTVLLENYGKFEKGYLIFVVRFLFGLVNQERTSYLE KKLSCKISQQIRLELLKWIEVKAKAKKLQIQPSQLELFYCLYEMQEEDFVQRAMDYFPKIEINLSTRM DHMVSSFCIENCHRVESLSLGFLHNMPKEEEEEEKEGRHLDMVQCVLPSSSHAACSHGLVNSH LTSSFCRGLFSVLSTSQSLTELDLSDNSLGDPGMRVLCETLQHPGCNIRRLWLGRCGLSHECCF DISLVLSSNQKLVELDLSDNALGDFGIRLLCVGLKHLLCNLKKLWLVSCCLTSACCQDLASVLSTS HSLTRLYVGENALGDSGVAILCEKAKNPQCNLQKLGLVNSGLTSVCCSALSSVLSTNQNLTHLYL RGNTLGDKGIKLLCEGLLHPDCKLQVLELDNCNLTSHCCWDLSTLLTSSQSLRKLSLGNNDLGDL GVMMFCEVLKQQSCLLQNLGLSEMYFNYETKSALETLQEEKPELTVVFEPSW
Host	Wheat Germ (in vitro)
Theoretical MW (kDa)	144.6

Interspecies Antigen Sequence	Mouse (82); Rat (81)
Preparation Method	*in vitro* wheat germ expression system
Purification	Glutathione Sepharose 4 Fast Flow
Quality Control Testing	12.5% SDS-PAGE Stained with Coomassie Blue.
Storage Buffer	50 mM Tris-HCl, 10 mM reduced Glutathione, pH=8.0 in the elution buffer.
Storage Instruction	Store at -80°C. Aliquot to avoid repeated freezing and thawing.
Note	Best use within three months from the date of receipt of this protein.

Applications

- Enzyme-linked Immunoabsorbent Assay
- Western Blot (Recombinant protein)
- Antibody Production
- Protein Array

Gene Info — NLRP3

Entrez GeneID	114548
GeneBank Accession#	NM_004895.3
Protein Accession#	NP_004886.3
Gene Name	NLRP3
Gene Alias	AGTAVPRL, AII, AII/AVP, AVP, C1orf7, CIAS1, CLR1.1, FCAS, FCU, FLJ95925, MWS, NALP3, PYPAF1
Gene Description	NLR family, pyrin domain containing 3
Omim ID	120100 191900 606416 607115
Gene Ontology	Hyperlink

Gene Summary	This gene encodes a pyrin-like protein containing a pyrin domain, a nucleotide-binding site (NBS) domain, and a leucine-rich repeat (LRR) motif. This protein interacts with the apoptosis-associated speck-like protein PYCARD/ASC, which contains a caspase recruitment domain, and is a member of the NALP3 inflammasome complex. This complex functions as an upstream activator of NF-kappaB signaling, and it plays a role in the regulation of inflammation, the immune response, and apoptosis. Mutations in this gene are associated with familial cold autoinflammatory syndrome (FCAS), Muckle-Wells syndrome (MWS), chronic infantile neurological cutaneous and articular (CINCA) syndrome, and neonatal-onset multisystem inflammatory disease (NOMID). Multiple alternatively spliced transcript variants encoding distinct isoforms have been identified for this gene. Alternative 5' UTR structures are suggested by available data; however, insufficient evidence is available to determine if all of the represented 5' UTR splice patterns are biologically valid. [provided by RefSeq
Other Designations	AII/AVP receptor-like|NACHT domain-, leucine-rich repeat-, and PYD-containing protein 3|NACHT, LRR and PYD containing protein 3|OTTHUMP00000038408|OTTHUMP00000038409|OTTHUMP00000038410|PYRIN-containing APAF1-like protein 1|angiotensin/vasopressin receptor

Publication Reference

- PARP-1 regulates inflammasome activity by poly-ADP-ribosylation of NLRP3 and interaction with TXNIP in primary macrophages.

  Ling-Ya Chiu, Duen-Yi Huang, Wan-Wan Lin.

  Cellular and Molecular Life Sciences : CMLS 2022 Jan; 79(2):108.

  Application: KA, Human, Recombinate proteins

- Molecular Basis of Acute Cystitis Reveals Susceptibility Genes and Immunotherapeutic Targets.

  Ambite I, Puthia M, Nagy K, Cafaro C, Nadeem A, Butler DS, Rydström G, Filenko NA, Wullt B, Miethke T, Svanborg C.

  PLoS Pathogens 2016 Oct; 12(10):e1005848.

  Application: Func, EMSA, Human, Recombinant protein

- NLRP3 activation and mitosis are mutually exclusive events coordinated by NEK7, a new inflammasome component.

  Shi H, Wang Y, Li X, Zhan X, Tang M, Fina M, Su L, Pratt D, Bu CH, Hildebrand S, Lyon S, Scott L, Quan J, Sun Q, Russell J, Arnett S, Jurek P, Chen D, Kravchenko VV, Mathison JC, Moresco EM, Monson NL, Ulevitch RJ, Beutler B.

  Nature Immunology 2016 Mar; 17(3):250.

  Application: WB-Ce, Human, J774A.1 cells, Macrophages

- Electrophilic Warhead-Based Design of Compounds Preventing NLRP3 Inflammasome-Dependent Pyroptosis.

  Cocco M, Garella D, Di Stilo A, Borretto E, Stevanato L, Giorgis M, Marini E, Fantozzi R, Miglio G, Bertinaria M.

  Journal of Medicinal Chemistry 2014 Dec; 57(24):10366.

  Application: Enzyme, Human, NLRP3 was incubated with the assessed compounds in THP-1 cells

- 3,4-Methylenedioxy-β-nitrostyrene inhibits NLRP3 activation by blocking assembly of the inflammasome.

  He Y, Varadarajan S, Munoz-Planillo R, Burberry A, Nakamura Y, Nunez G.

  The Journal of Biological Chemistry 2014 Jan; 289(2):1142.

  Application: Pull-Down, WB-Re, Func, KA, Mouse, BMDMs, MNS

- Chemotherapy-triggered cathepsin B release in myeloid-derived suppressor cells activates the Nlrp3 inflammasome and promotes tumor growth.

  Bruchard M, Mignot G, Derangere V, Chalmin F, Chevriaux A, Vegran F, Boireau W, Simon B, Ryffel B, Connat JL, Kanellopoulos J, Martin F, Rebe C, Apetoh L, Ghiringhelli F.

  Nature medicine 2012 Dec; 19(1):57.

  Application: PI, Human, Recombinant protein

- Novel role of PKR in inflammasome activation and HMGB1 release.

  Lu B, Nakamura T, Inouye K, Li J, Tang Y, Lundbäck P, Valdes-Ferrer SI, Olofsson PS, Kalb T, Roth J, Zou Y, Erlandsson-Harris H, Yang H, Ting JP, Wang H, Andersson U, Antoine DJ, Chavan SS, Hotamisligil GS, Tracey KJ.

  Nature 2012 Aug; 488(7413):670.

  Application: PI, Recombinant protein

Disease

- Amyloidosis
- Anaphylaxis
- Arthritis
- Attention Deficit Disorder with Hyperactivity
- Autistic Disorder
- Autoimmune Diseases
- Behcet Syndrome
- Candidiasis
- Cardiovascular Diseases
- Chlamydia Infections
- Colitis
- Crohn Disease

- Dermatitis
- Diabetes Mellitus
- Disease Progression
- Drug Hypersensitivity
- Edema
- Fallopian Tube Diseases
- Familial Mediterranean fever
- Food Hypersensitivity
- Genetic Predisposition to Disease
- Hematologic Neoplasms
- HIV Infections
- Hypertension
- Infertility
- Inflammation
- Inflammatory Bowel Diseases
- Mycoplasma Infections
- NARP
- Recurrence
- Syndrome
- Vulvar Vestibulitis