

Recombinant Mouse NLRC4 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51595

Size: 10ug, 100ug

Protein Name: NLR family CARD domain-containing protein 4 (Caspase recruitment domain-containing protein 12) (Ice protease-activating factor) (Ipaf)

Synonym: Nlrc4, Card12, Ipaf

UniProt ID: Q3UP24

UniProt Link: www.uniprot.org/uniprotkb/Q3UP24/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1024 AA

Molecular Weight: 117 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MNFIRNNRRALIQRMGLTVTKQICDDL FALNVLNNQEANVIYCEPLEQEAAARKIIHMTMQKGSAACNL
FLKSLENWDYFVYQDLTGQNLSYQVTEEDLNVLAAQNLKDLYNSPAFLNFYPLGEDIDIIFNLEKTFTEP
IMWKKDHRHHRVEQLTGLSLLLEALKSPCLIEGESGKGKSTLLQRIAMLWASGGCRALKGFRLVFFIHL
RSARGGLFETLYDQLLNIPDFISKPTFKALLKLHKEVLFLLDGYNEFHPQNCPEIEALIKENHRFKNM
VIVTTTTECLRHIRHVGALTAEVGDMTEDSAKDLIEAVLVPDQVERLWAQIQESRCLRNLMKTPLFVVI
TCAIQMGRQEFQAHTQTMLFQTFYDLLIQKNSHRYRGGASGDFARSLDYCGDLAEGVFAHKFD
PEHGSSMNEDVLVTIGLLCKYTAQRLKPTYKFFHKSQFEYTAGRRLSSLLTSKEPEEVSKGNSYLNK
MVSISDITSLYGNLLLYTCGSSTEATRAVMRHLAMVYQHGS LQGLSVTKRPLWRQESIQSLRNTTEQ
DVLKAINVNSFVECGINLFS ESMSKSDLSQEFAFFQGKSLYINSENIPDYLDFDFEYLPNCASALDFV
KLDFYERATESQDKAEENVPGVHTEGPSETYIPRAVSLFFNWKQEFKTEVTLRDINKLNKQDIKYL
GKIFSSATNLRHLHIKRC AAMAGRLSSVLR TCKNMHTLMVEASPLTTDDEQYITSVTGLQNLSIHLHT
QQLP GGLIDSLGNLKNLERLILDDIRMNEEDAKNLA EGLRSLKKMRLHLTHLSDIGEGMDYIVKSLSE
ESCDLQEMKLVACCLTANSVKVLAQNLHNLIKLSILDISENYLEKDGNEALQELIGRLGVLGELTTML
PWCWDVHTSLPKLLKQLEGTPGLAKLGLKNWRLRDEEIKSLGEFLEMNPLRDLQQLDLAGHCVSSD
GWLYFMNVFENLKQLVFFDFSTEEFLPDAALVRKLSQVLSKL TLLQEVKLTGWFEFDDYDISAIKGT
FKLVTA

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant NLR family CARD domain-containing protein 4 (Caspase recruitment domain-containing protein 12) (Ice protease-activating factor) (IpaF) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Key component of inflammasomes that indirectly senses specific proteins from pathogenic bacteria and fungi and responds by assembling an inflammasome complex that promotes caspase-1 activation, cytokine production and macrophage pyroptosis. The NLRC4 inflammasome is activated as part of the innate immune response to a range of intracellular bacteria. It senses pathogenic proteins of the type III secretion system (T3SS) and type IV secretion system (T4SS) such as flagellin and PrgJ-like rod proteins via the Naip proteins (Naip1, Naip2 or Naip5): specific Naip proteins recognize and bind pathogenic proteins, driving assembly and activation of the NLRC4 inflammasome. The NLRC4 inflammasome senses Gram-negative bacteria such as *L.pneumophila* and *P.aeruginosa*, enteric pathogens *S.typhimurium* (*Salmonella*) and *S.flexneri* and fungal pathogen *C.albicans*. In intestine, the NLRC4 inflammasome is able to discriminate between commensal and pathogenic bacteria and specifically drives production of interleukin-1 beta (IL1B) in response to infection by *Salmonella* or *P.aeruginosa*. In case of *L.pneumophila* infection the inflammasome acts by activating caspase-7.

Subcellular Localization: Cytoplasm, cytosol . Inflammasome .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.