

Recombinant Mouse RIPK2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51481

Size: 10ug, 100ug

Protein Name: Receptor-interacting serine/threonine-protein kinase 2 (EC 2.7.11.1)
(Receptor-interacting protein 2) (Tyrosine-protein kinase RIPK2) (EC 2.7.10.2)

Synonym: Ripk2, Rip2

UniProt ID: P58801

UniProt Link: www.uniprot.org/uniprotkb/P58801/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 539 AA

Molecular Weight: 60 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MNGDAICSAIPPIPYHKLADLHYLSRGASGTVSSARHADWRVRVAVKHLHIHTPLLDSEKNDILREAE
ILHKARFSYILPILGICNEPEFLGIVTEYMPNGSLNELLHRKTEYPDIAWPLRFRILHEIALGVNYLHNMN
PPLLHDLKTQNILLDNEFHVKIADFGLSKWRMMSLSQSRYSKSAPEGGTIYMPPEYEPGQKSRA
SVKHDYISYAVIMWEVLSRKQPFEEVTNPLQIMYSVSQGHPRDTSEENLPFDIPHRGLMISLIQSGWA
QNPDERPSFLKCLIELEPVLRTFEDITFLEAVIQLKKAKIQSSSSTIHLCDKKMDLSLNIPANHPPQES
CGSSLLSRNTGSPGPSRSLAPQDKGFLSGAPQDCSSLKAHHCPGNHSDGIVSVPPGAAFCDRR
ASSCSLAVISPFLVEKGSRPPIGIAQQWQSKREAIVSQMTEACLNQSLDALLSRDLIMKEDYELISTK
PTRTSKVRQLLDTSDIQGEEFAKVVVQKLKDNKQLGLQPYPEVPVLSKAPPSNFPQNKSL

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 Receptor-interacting serine/threonine-protein kinase 2 (EC 2.7.11.1) (Receptor-interacting protein 2) (Tyrosine-protein kinase RIPK2) (EC 2.7.10.2) 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: Serine/threonine/tyrosine-protein kinase that plays an essential role in modulation of innate and adaptive immune responses (By similarity). Acts as a key effector of NOD1 and NOD2 signaling pathways: upon activation by bacterial peptidoglycans, NOD1 and NOD2 oligomerize and recruit RIPK2 via CARD-CARD domains, leading to the formation of RIPK2 filaments (PubMed:17277144, PubMed:21469090, PubMed:30405132). Once recruited, RIPK2 autophosphorylates and undergoes 'Lys-63'-linked polyubiquitination by E3 ubiquitin ligases XIAP, BIRC2 and BIRC3, as well as 'Met-1'-linked (linear) polyubiquitination by the LUBAC complex, becoming a scaffolding protein for downstream effectors (PubMed:30405132). 'Met-1'-linked polyubiquitin chains attached to RIPK2 recruit IKBKG/NEMO, which undergoes 'Lys-63'-linked polyubiquitination in a RIPK2-dependent process (By similarity). 'Lys-63'-linked polyubiquitin chains attached to RIPK2 serve as docking sites for TAB2 and TAB3 and mediate the recruitment of MAP3K7/TAK1 to IKBKG/NEMO, inducing subsequent activation of IKBKB/IKKB (PubMed:17965022). In turn, NF-kappa-B is released from NF-kappa-B inhibitors and translocates into the nucleus where it activates the transcription of hundreds of genes involved in immune response, growth control, or protection against apoptosis (By similarity). The protein kinase activity is dispensable for the NOD1 and NOD2 signaling pathways (By similarity). Contributes to the tyrosine phosphorylation of the guanine exchange factor ARHGEF2 through Src tyrosine kinase leading to NF-kappa-B activation by NOD2 (By similarity). Also involved in adaptive immunity: plays a role during engagement of the T-cell receptor (TCR) in promoting BCL10 phosphorylation and subsequent NF-kappa-B activation (By similarity). Plays a role in the inactivation of RHOA in response to NGFR signaling (PubMed:26646181).

Subcellular Localization: Cytoplasm . Cell membrane ; Peripheral membrane protein . Endoplasmic reticulum . Note=Recruited to the cell membrane by NOD2 following stimulation by bacterial peptidoglycans.

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.