RIPK2 Protein, Human (P. pastoris, His)

Cat. No.:	HY-P700624
Synonyms:	receptor-interacting serine-threonine kinase 2; receptor-interacting serine/threonine-protein kinase 2; CARD3; CARDIAK; RICK; RIP2; RIP-2; CARD-carrying kinase; growth-inhibiting gene 30; tyrosine-protein kinase RIPK2; receptor interacting protein 2; receptor-interacting protein 2; RIP-like-interacting CLARP kinase; CARD-containing IL-1 beta ICE-kinase; CARD-containing interleukin-1 beta-converting enzyme-associated kinase; CARD-containing interleukin-1 beta-converting enzyme (ICE)-associated kinase; receptor-interacting protein (RIP)-like interacting caspase-like apoptosis regulatory protein (CLARP) kinase; CCK; GIG30;
Species:	Human
Source:	P. pastoris
Accession:	O43353 (M1-M540)
Gene ID:	8767
Molecular Weight:	Approximately 66 kDa

PROPERTIES

AA Sequence

MNGEAICSAL PTIPYHKLAD LRYLSRGASG TVSSARHADW
RVQVAVKHLH IHTPLLDSER KDVLREAEIL HKARFSYILP
ILGICNEPEF LGIVTEYMPN GSLNELLHRK TEYPDVAWPL
RFRILHEIAL GVNYLHNMTP PLLHHDLKTQ NILLDNEFHV
KIADFGLSKW RMMSLSQSRS SKSAPEGGTI IYMPPENYEP
GQKSRASIKH DIYSYAVITW EVLSRKQPFE DVTNPLQIMY
SVSQGHRPVI NEESLPYDIP HRARMISLIE SGWAQNPDER
PSFLKCLIEL EPVLRTFEEI TFLEAVIQLK KTKLQSVSSA
IHLCDKKKME LSLNIPVNHG PQEESCGSSQ LHENSGSPET
SRSLPAPQDN DFLSRKAQDC YFMKLHHCPG NHSWDSTISG
SQRAAFCDHK TTPCSSAIIN PLSTAGNSER LQPGIAQQWI
QSKREDIVNQ MTEACLNQSL DALLSRDLIM KEDYELVSTK
PTRTSKVRQL LDTTDIQGEE FAKVIVQKLK DNKQMGLQPY
PEILVVSRSP SLNLLQNKSM

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	RIPK2, a serine/threonine/tyrosine-protein kinase, plays a pivotal role in orchestrating innate and adaptive immune responses. As a key effector in NOD1 and NOD2 signaling pathways, RIPK2 forms filaments upon activation by bacterial peptidoglycans, recruited via CARD-CARD domains. Autophosphorylation and polyubiquitination follow, involving 'Lys-63'-linked ubiquitin chains by XIAP, BIRC2, and BIRC3, as well as 'Met-1'-linked polyubiquitination by the LUBAC complex. This transforms RIPK2 into a scaffolding protein, recruiting downstream effectors. 'Lys-63'-linked polyubiquitin chains on RIPK2 facilitate the recruitment of IKBKG/NEMO, initiating the activation of IKBKB/IKKB and subsequent NF-kappa-B release from inhibitors. While the kinase activity is dispensable for NOD1 and NOD2 pathways, RIPK2 contributes to tyrosine phosphorylation of ARHGEF2, activating NF-kappa-B through NOD2. Additionally, in adaptive immunity, RIPK2 promotes BCL10 phosphorylation during T-cell receptor engagement, and participates in RHOA inactivation in response to NGFR signaling. This multifaceted kinase stands as a crucial mediator in diverse immune processes.

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