

Receptor-interacting serine/threonine-protein kinase 2 (RIPK2) Recombinant Protein | RIPK2 recombinant protein

Recombinant Human Receptor-interacting serine/threonine-protein kinase 2 (RIPK2)

CATALOG # AAA115514	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
-------------------------------	---

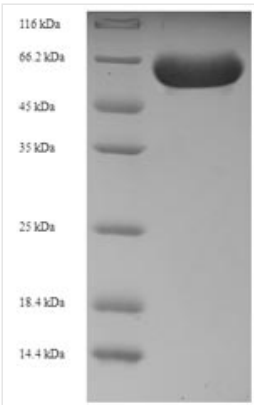
PRODUCT SYNONYMS

Receptor-interacting serine/threonine-protein kinase 2 (RIPK2); Recombinant Human Receptor-interacting serine/threonine-protein kinase 2 (RIPK2); CARD-containing interleukin-1 beta-converting enzyme-associated kinase; CARD-containing IL-1 beta ICE-kinase; RIP-like-interacting CLARP kinase; Receptor-interacting protein 2; RIP-2; Tyrosine-protein kinase RIPK2 (EC:2.7.10.2); RIPK2 recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE.
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Sequence Positions	1-540aa; Full Length
Sequence	MNGEAICSAL PTIPYHKLAD LRYLSRGASG TVSSARHADW RVQVAVKHLH IHTPLDSEK KDVLR AEAIL HKARFSYILP ILGICNEPEF LGIVTEYMPN GSLNELLHRK TEYPDVAWPL RFRILHEIAL GVNYLHNMTPL LHHD LKTQ NILLDNEFHV KIADFGLSKW RMMSLSQSRS SKSAPEGGTI IYMPENYEP GQKSRASIKH DIYSYAVITW EVLSRKQPF E 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 PEILVVSRSPLNLLQNKSM
Production Note	Special Offer: The E Coli host-expressed protein is manufactured from a stock plasmid containing the protein gene. E Coli host-expressed protein is stocked in different unit sizes ranging from as small as 10 ug to as large as 1 mg. Bulk inventory is also available. The E Coli host-expressed protein has been ordered over and over again by researchers and has stood the test of time as both a robust protein and important target for the research community. It is part of our new program to make our most popular protein targets and corresponding hosts available in expanded unit sizes and with a quick processing time. Select E Coli host-expressed protein for the fastest delivery among all hosts. Please contact our or email to for more details.
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.

IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

Related Product Information for RIPK2 recombinant protein	Serine/threonine/tyrosine kinase that plays an essential role in modulation of innate and adaptive immune responses. Upon stimulation by bacterial peptidoglycans, NOD1 and NOD2 are activated, oligomerize and recruit RIPK2 through CARD-CARD domains. Contributes to the tyrosine phosphorylation of the guanine exchange factor ARHGEF2 through Src tyrosine kinase leading to NF-kappaB activation by NOD2. Once recruited, RIPK2 autophosphorylates and undergoes 'Lys-63'-linked polyubiquitination by E3 ubiquitin ligases XIAP, BIRC2 and BIRC3. The polyubiquitinated protein mediates the recruitment of MAP3K7/TAK1 to IKBKG/NO and induces 'Lys-63'-linked polyubiquitination of IKBKG/NO and subsequent activation of IKBKB/IKKB. 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. Plays also a role during engagement of the T-cell receptor (TCR) in promoting BCL10 phosphorylation and subsequent NF-kappa-B activation.
Product Categories/Family for RIPK2 recombinant protein	Immunology

References

RICK, a novel protein kinase containing a caspase recruitment domain, interacts with CLARP and regulates CD95-mediated apoptosis. Inohara N., del Peso L., Koseki T., Chen S., Nunez G.J. *Biol. Chem.* 273:12296-12300(1998)

RIP2 is a novel NF-kappaB-activating and cell death-inducing kinase. McCarthy J.V., Ni J., Dixit V.M.J. *Biol. Chem.* 273:16968-16975(1998)

Identification of CARDIAK, a RIP-like kinase that associates with caspase-1. Thome M., Hofmann K., Burns K., Martinon F., Bodmer J.-L., Mattmann C., Tschopp J. *Curr. Biol.* 8:885-888(1998)

The secreted protein discovery initiative (SPDI) , a large-scale effort to identify novel human secreted and transmembrane proteins a bioinformatics assessment. Clark H.F., Gurney A.L., Abaya E., Baker K., Baldwin D.T., Brush J., Chen J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd P., Eaton D., Foster J.S., Grimaldi C., Gu Q., Hass P.E., Heldens S., Huang A., Kim H.S., Klimowski L., Jin Y., Johnson S., Lee J., Lewis L., Liao D., Mark M.R., Robbie E., Sanchez C., Schoenfeld J., Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A., Vandlen R.L., Watanabe C., Wieand D., Woods K., Xie M.-H., Yansura D.G., Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A.D., Wood W.I., Godowski P.J., Gray A.M. *Genome Res.* 13:2265-2270(2003)

Complete sequencing and characterization of 21,243 full-length human cDNAs. Ota T., Suzuki Y., Nishikawa T., Otsuki T., Sugiyama T., Irie R., Wakamatsu A., Hayashi K., Sato H., Nagai K., Kimura K., Makita H., Sekine M., Obayashi M., Nishi T., Shibahara T., Tanaka T., Ishii S., Yamamoto J., Saito K., Kawai Y., Isono Y., Nakamura Y., Nagahari K., Murakami K., Yasuda T., Iwayanagi T., Wagatsuma M., Shiratori A., Sudo H., Hosoiri T., Kaku Y., Kodaira H., Kondo H., Sugawara M., Takahashi M., Kanda K., Yokoi T., Furuya T., Kikkawa E., Omura Y., Abe K., Kamihara K., Katsuta N., Sato K., Tanikawa M., Yamazaki M., Ninomiya K., Ishibashi T., Yamashita H., Murakawa K., Fujimori K., Tanai H., Kimata M., Watanabe M., Hiraoka S., Chiba Y., Ishida S., Ono Y., Takiguchi S., Watanabe S., Yosida M., Hotuta T., Kusano J., Kanehori K., Takahashi-Fujii A., Hara H., Tanase T.-O., Nomura Y., Togiya S., Komai F., Hara R., Takeuchi K., Arita M., Imose N., Musashino K., Yuuki H., Oshima A., Sasaki N., Aotsuka S., Yoshikawa Y., Matsunawa H., Ichihara T., Shiohata N., Sano S., Moriya S., Momiyama H., Satoh N., Takami S., Terashima Y., Suzuki O., Nakagawa S., Senoh A., Mizoguchi H., Goto Y., Shimizu F., Wakebe H., Hishigaki H., Watanabe T., Sugiyama A., Takemoto M., Kawakami B., Yamazaki M., Watanabe K., Kumagai A., Itakura S., Fukuzumi Y., Fujimori Y., Komiyama M., Tashiro H., Tanigami A., Fujiwara T., Ono T., Yamada K., Fujii Y., Ozaki K., Hirao M., Ohmori Y., Kawabata A., Hikiji T., Kobatake N., Inagaki H., Ikema Y., Okamoto S., Okitani R., Kawakami T., Noguchi S., Itoh T., Shigeta K., Senba T., Matsumura K., Nakajima Y., Mizuno T., Morinaga M., Sasaki M., Togashi T., Oyama M., Hata H., Watanabe M., Komatsu T., Mizushima-Sugano J., Satoh T., Shirai Y., Takahashi Y., Nakagawa K., Okumura K., Nagase T., Nomura N., Kikuchi H., Masuho Y., Yamashita R., Nakai K., Yada T., Nakamura Y., Ohara O., Isogai T., Sugano S. *Nat. Genet.* 36:40-45(2004)

DNA sequence and analysis of human chromosome 8. Nusbaum C., Mikkelsen T.S., Zody M.C., Asakawa S., Taudien S., Garber M., Kodira C.D., Schueler M.G., Shimizu A., Whittaker C.A., Chang J.L., Cuomo C.A., Dewar K., FitzGerald M.G., Yang X., Allen N.R., Anderson S., Asakawa T., Blechschmidt K., Bloom T., Borowsky M.L., Butler J., Cook A., Corum B., DeArellano K., DeCaprio D., Dooley K.T., Dorris L. III, Engels R., Gloeckner G., Hafez N., Hagopian D.S., Hall J.L., Ishikawa S.K., Jaffe D.B., Kamat A., Kudoh J., Lehmann R., Lokitsang T., Macdonald P., Major J.E., Matthews C.D., Mauceli E., Menzel U., Mihalev A.H., Minoshima S., Murayama Y., Naylor J.W., Nicol R., Nguyen C., O'Leary S.B., O'Neill K., Parker S.C.J., Polley A., Raymond C.K., Reichwald K., Rodriguez J., Sasaki T., Schilhabel M., Siddiqui R., Smith C.L., Sneddon T.P., Talamas J.A., Tenzin P., Topham K., Venkataraman V., Wen G., Yamazaki S., Young S.K., Zeng Q., Zimmer A.R., Rosenthal A., Birren B.W., Platzer M., Shimizu N., Lander E.S. *Nature* 439:331-335(2006)

Rip2 participates in Bcl10 signaling and T-cell receptor-mediated NF-kappaB activation. Ruefli-Brasse A.A., Lee W.P., Hurst S., Dixit V.M.J. *Biol. Chem.* 279:1570-1574(2004)

Identification of a regulatory autophosphorylation site in the serine-threonine kinase RIP2. Dorsch M., Wang A., Cheng H., Lu C., Bielecki A., Charron K., Clauser K., Ren H., Polakiewicz R.D., Parsons T., Li P., Ocain T., Xu Y. *Cell. Signal.* 18:2223-2229(2006)

Solution structure of NOD1 CARD and mutational analysis of its interaction with the CARD of downstream kinase RICK. Manon F., Favier A., Nunez G., Simorre J.P., Cusack S.J. *Mol. Biol.* 365:160-174(2007)

MEKK4 sequesters RIP2 to dictate NOD2 signal specificity. Clark N.M., Marinis J.M., Cobb B.A., Abbott D.W. *Curr. Biol.* 18:1402-1408(2008)

A critical role of RICK/RIP2 polyubiquitination in Nod-induced NF-kappaB activation. Hasegawa M., Fujimoto Y., Lucas P.C., Nakano H., Fukase K., Nunez G., Inohara N. *EMBO J.* 27:373-383(2008)

Kinase-selective enrichment enables quantitative phosphoproteomics of the kinome across the cell cycle. Daub H., Olsen J.V., Bairlein M., Gnad F., Oppermann F.S., Korner R., Greff Z., Keri G., Stemmann O., Mann M. *Mol. Cell.* 31:438-448(2008)

A quantitative atlas of mitotic phosphorylation. Dephoure N., Zhou C., Villen J., Beausoleil S.A., Bakalarski C.E., Elledge S.J., Gygi S.P. *Proc. Natl. Acad. Sci. U.S.A.* 105:10762-10767(2008)

ITCH K63-ubiquitinates the NOD2 binding protein, RIP2, to influence inflammatory signaling pathways. Tao M., Scacheri P.C., Marinis J.M., Harhaj E.W., Matesic L.E., Abbott D.W. *Curr. Biol.* 19:1255-1263(2009)

Cellular inhibitors of apoptosis cIAP1 and cIAP2 are required for innate immunity signaling by the pattern recognition receptors NOD1 and NOD2. Bertrand M.J., Doiron K., Labbe K., Korneluk R.G., Barker P.A., Saleh M. *Immunity* 30:789-801(2009)

Large-scale proteomics analysis of the human kinome. Oppermann F.S., Gnad F., Olsen J.V., Hornberger R., Greff Z., Keri G., Mann M., Daub H. *Mol. Cell. Proteomics* 8:1751-1764(2009)

Inhibition of RIP2's tyrosine kinase activity limits NOD2-driven cytokine responses. Tigno-Aranjuez J.T., Asara J.M., Abbott D.W. *Genes Dev.* 24:2666-2677(2010)

Quantitative phosphoproteomics reveals widespread full phosphorylation site occupancy during mitosis. Olsen J.V., Vermeulen M., Santamaria A., Kumar C., Miller M.L., Jensen L.J., Gnad F., Cox J., Jensen T.S., Nigg E.A., Brunak S., Mann M. *Sci. Signal.* 3:RA3-RA3(2010)

Initial characterization of the human central proteome. Burkard T.R., Planayavsky M., Kaupe I., Breitwieser F.P., Buerckstuemmmer T., Bennett K.L., Superti-Furga G., Colinge J. *BMC Syst. Biol.* 5:17-17(2011)

cIAP1/2 are direct E3 ligases conjugating diverse types of ubiquitin chains to receptor interacting proteins kinases 1 to 4 (RIP1-4). Bertrand M.J., Lippens S., Staes A., Gilbert B., Roelandt R., De Medts J., Gevaert K., Declercq W., Vandenabeele P. *PLoS ONE* 6:E22356-E22356(2011)

NLRP10 enhances Shigella-induced pro-inflammatory responses. Lautz K., Damm A., Menning M., Wenger J., Adam A.C., Zigrino P., Kremmer E., Kufer T.A. *Cell. Microbiol.* 14:1568-1583(2012)

Control of NOD2 and Rip2-dependent innate immune activation by GEF-H1. Zhao Y., Alonso C., Ballester I., Song J.H., Chang S.Y., Guleng B., Arihiro S., Murrav P.J., Xavier R., Kobavashi K.S., Reinecker

NCBI AND UNIPROT INFORMATION

NCBI GI #	4506537
NCBI GeneID	8767
NCBI Accession #	NP_003812.1
NCBI GenBank Nucleotide #	NM_003821.5
UniProt Accession #	O43353; Q6UWF0; B7Z748
Molecular Weight	65.2 kDa
NCBI Official Full Name	receptor-interacting serine/threonine-protein kinase 2
NCBI Official Synonym Full Names	receptor interacting serine/threonine kinase 2
NCBI Official Symbol	RIPK2
NCBI Official Synonym Symbols	CCK; RICK; RIP2; CARD3; GIG30; CARDIAK
NCBI Protein Information	receptor-interacting serine/threonine-protein kinase 2
UniProt Protein Name	Receptor-interacting serine/threonine-protein kinase 2
UniProt Gene Name	RIPK2
UniProt Synonym Gene Names	CARDIAK; RICK; RIP2; CARD-containing IL-1 beta ICE-kinase; RIP-2
UniProt Entry Name	RIPK2_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://www.aaabiotech.com/ripk2-recombinant-protein-e-coli/115514>