

RNA-splicing ligase RtcB Recombinant Protein | rtcB recombinant protein

Recombinant Escherichia coli RNA-splicing ligase RtcB

CATALOG # AAA115516	HOST E Coli or Yeast or Baculovirus or Mammalian Cell
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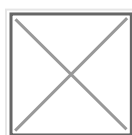
PRODUCT SYNONYMS

RNA-splicing ligase RtcB; Recombinant Escherichia coli RNA-splicing ligase RtcB; rtcB 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	1-408aa; Full Length
Sequence	MNYELLTTEN APVKMWTKGV PVEADARQQL INTAKMPFIF KHIAVMPDVH LGKGSTIGSV IPTKGAIIPA AVGVDIGCGM NALRTALTAE DLPENLAELR QAIETAVPHG RTTGRCKRDK GAWENPPVNV DAKWAELEAG YQWLTQKYPR FLNTNNYKHL GTLGTGNHFI EICLDESQV WIMLHSGSRG IGNAIGTYFI DLAQKEMQET LETLP SRDLA YFMEGTEYFD DYLKAVAWAQ LFASLN RDAM MENVVTALQS ITQKTVRQPQ TLAMEEINCH HNYVQKEQHF GEEIYVTRKG AVSARAGQYG IIPGSMGAKS FIVRGLGNEE SFCSCSHGAG RVMSRTKAKK LFSVEDQIRA TAHVECRKDA EVIDEIPMAY KDIDAVMAAQ SDLVEVIYTL RQVVCVKG
Sequence Length	408
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 rtcB recombinant protein	RNA ligase that mediates the joining of broken tRNA-like st-loop structures in case of tRNA damage. Probably participates to tRNA restriction-repair by ligating broken tRNA-like st-loop structures with 2',3'-cyclic phosphate and 5'-OH ends to form a splice junction with a 2'-OH, 3',5'-phosphodiester, a step that requires GTP. Also acts as a DNA ligase in case of DNA damage by splicing 'dirty' DNA breaks, characterized by 3'-PO4 (or cyclic-PO4) and 5'-OH ends that cannot be sealed by classical DNA ligases.
Product Categories/Family for rtcB recombinant protein	Cell Biology

References	The complete genome sequence of Escherichia coli K-12. Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V., Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F., Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J., Mau B., Shao Y. Science 277:1453-1462(1997) Highly accurate genome sequences of Escherichia coli K-12 strains MG1655 and W3110. Hayashi K., Morooka N., Yamamoto Y., Fujita K., Isono K., Choi S., Ohtsubo E., Baba T., Wanner B.L., Mori H., Horiuchi T. Mol. Syst. Biol. 2:E1-E5(2006) Characterization of the Escherichia coli RNA 3'-terminal phosphate cyclase and its sigma54-regulated operon. Genschik P., Drabikowski K., Filipowicz W. J. Biol. Chem. 273:25516-25526(1998) RtcB is the RNA ligase component of an Escherichia coli RNA repair operon. Tanaka N., Shuman S.J. Biol. Chem. 286:7727-7731(2011) RtcB, a novel RNA ligase, can catalyze tRNA splicing and HAC1 mRNA splicing in vivo. Tanaka N., Meineke B., Shuman S.J. Biol. Chem. 286:30253-30257(2011) Novel mechanism of RNA repair by RtcB via sequential 2',3'-cyclic phosphodiesterase and 3'-Phosphate/5'-hydroxyl ligation reactions. Tanaka N., Chakravarty A.K., Maughan B., Shuman S.J. Biol. Chem. 286:43134-43143(2011) The sequential 2',3'-cyclic phosphodiesterase and 3'-phosphate/5'-OH ligation steps of the RtcB RNA splicing pathway are GTP-dependent. Chakravarty A.K., Shuman S. Nucleic Acids Res. 40:8558-8567(2012) RNA ligase RtcB splices 3'-phosphate and 5'-OH ends via covalent RtcB-(histidyl)-GMP and polynucleotide-(3') pp(5') G intermediates. Chakravarty A.K., Subbotin R., Chait B.T., Shuman S. Proc. Natl. Acad. Sci. U.S.A. 109:6072-6077(2012) Rewriting the rules for end joining via enzymatic splicing of DNA 3'-PO4 and 5'-OH ends. Das U., Chakravarty A.K., Remus B.S., Shuman S. Proc. Natl. Acad. Sci. U.S.A. 110:20437-20442(2013)
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NCBI AND UNIPROT INFORMATION

NCBI GI #	16131295
NCBI GeneID	947929
NCBI Accession #	NP_417879.1
NCBI GenBank Nucleotide #	NC_000913.3
UniProt Accession #	P46850; P76690; Q2M785
Molecular Weight	47.2 kDa
NCBI Official Full Name	RNA-splicing ligase
NCBI Official Symbol	rtcB
NCBI Official Synonym Symbols	ECK3407; JW3384; yhgL
NCBI Protein Information	RNA-splicing ligase
UniProt Protein Name	RNA-splicing ligase RtcB
UniProt Gene Name	rtcB
UniProt Synonym Gene Names	yhgL
UniProt Entry Name	RTCB_ECOLI

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.