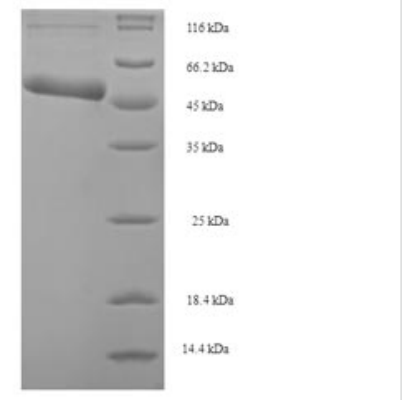
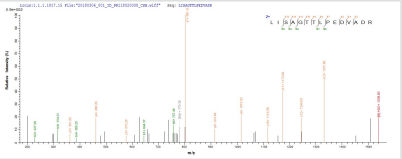
Recombinant Escherichia coli Holliday junction ATP-dependent DNA helicase RuvB (ruvB)

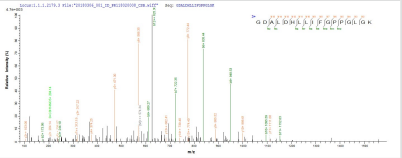
Product Code	CSB-EP364094ENV
Relevance	The RuvA-RuvB complex in the presence of ATP renatures cruciform structure in supercoiled DNA with palindromic sequence, indicating that it may promote strand exchange reactions in homologous recombination. RuvAB is a helicase that mediates the Holliday junction migration by localized denaturation and reannealing.
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P0A812
Product Type	Recombinant Protein
Immunogen Species	Escherichia coli (strain K12)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MIEADRLISAGTTLPEDVADRAIRPKLLEEYVGQPQVRSQMEIFIKAAKLRGDAL DHLLIFGPPGLGKTTLANIVANEMGVNLRTTSGPVLEKAGDLAAMLTNLEPHDV LFIDEIHRLSPVVEEVLYPAMEDYQLDIMIGEGPAARSIKIDLPPFTLIGATTRAG SLTSPLRDRFGIVQRLEFYQVPDLQYIVSRSARFMGLEMSDDGALEVARRARG TPRIANRLLRRVRDFAEVKHDGTISADIAAQALDMLNVDAEGFDYMDRKLLLAV IDKFFGGPVGLDNLAAAIGEERETIEDVLEPYLIQQGFLQRTPRGRMATTRAWN HFGITPPEMP
Lead Time	3-7 business days
Research Area	Others
Source	E.coli
Gene Names	ruvB
Protein Names	Recommended name: Holliday junction ATP-dependent DNA helicase RuvB EC= 3.6.4.12
Expression Region	1-336aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	53.2kDa
Protein Description	Full Length
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP364094ENV could indicate that this peptide derived from E.coli-expressed Escherichia coli (strain K12) ruvB.



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Description

Amino acids 1-336 form the expressed segment for recombinant Escherichia coli (strain K12) ruvB. This ruvB protein is expected to have a theoretical molecular weight of 53.2 kDa. This ruvB recombinant protein is manufactured in e.coli. The N-terminal 6xHis-SUMO tag was smoothly integrated into the coding gene of ruvB, which enables a simple process of detecting and purifying the ruvB recombinant protein in the following steps.

The Holliday junction ATP-dependent DNA helicase RuvB in Escherichia coli is a crucial component of the RuvABC complex involved in DNA repair and recombination processes. RuvB functions as a hexameric ring-shaped helicase and is responsible for branch migration during the resolution of Holliday junctions, which are DNA structures formed during genetic recombination. By utilizing ATP hydrolysis, RuvB translocates along the DNA strands, promoting the movement of the Holliday junction and facilitating its resolution. The resolution of Holliday junctions is vital for the accurate segregation of genetic material during cell division and the repair of DNA damage. RuvB's activity is tightly regulated and coordinated with other components of the RuvABC complex. Understanding the molecular mechanisms of RuvB provides insights into the intricate processes of DNA repair and recombination in bacteria, contributing to our broader understanding of genome maintenance and stability.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.