RuvB Protein, E.coli (His-SUMO)

Cat. No.:	HY-P71513
Synonyms:	ruvB; b1860; JW1849; Holliday junction ATP-dependent DNA helicase RuvB; EC 3.6.4.12
Species:	E.coli
Source:	E. coli
Accession:	P0A812 (M1-P336)
Gene ID:	946371
Molecular Weight:	Approximately 53.2 kDa

PROPERTIES

AA Sequence	M I E A D R L I S A G T T L P E D V A D R A I R P K L L E E Y V G Q P Q V R S Q M E I F I K A A K L R G D A L D H L L I F G P P G L G K T T L A N I V A N E M G V N L R T T S G P V L E K A G D L A A M L T N L E P H D V L F I D E I H R L S P V V E E V L Y P A M E D Y Q L D I M I G E G P A A R S I K I D L P P F T L I G A T T R A G S L T S P L R D R F G I V Q R L E F Y Q V P D L Q Y I V S R S A R F M G L E M S D D G A L E V A R R A R G T P R I A N R L L R R V R D F A E V K H D G T I S A D I A A Q A L D M L N V D A E G F D Y M D R K L L L A V I D K F F G G P V G L D N L A A A I G E E R E T I E D V L E P Y L I Q Q G F L Q R T P R G R M A T T R A W N H F G I T P P E M P
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 sterile filtered PBS, 6% Trehalose, pH 7.4.
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	The RuvB protein, a crucial component of the RuvABC complex, plays a pivotal role in the recombinational repair of DNA damaged by UV radiation or chemicals. Additionally, it contributes significantly to the rescue of stalled DNA replication forks

through replication fork reversal (RFR), an essential process for UV light survival. This subunit exhibits weak ATPase activity, preferentially binding to ADP over ATP, and its ATPase function is inhibited by its ADP product. Teaming up with RuvA, RuvB promotes Holliday junction (HJ) branch migration, facilitating the dissociation of junctions in the presence of ATP and Mg(2+). Acting as a molecular pump, the RuvB hexamer pulls DNA into and through the RuvAB complex, allowing for the bypass of UV-induced lesions and physically cross-linked DNA strands. While RuvA provides specificity by binding to cruciform junctions, the RuvB ATPase serves as the motor force for branch migration. The RuvA-RuvB complex exhibits 5'-3' helicase activity in vitro, dependent on ATP and most efficient on short dsDNA hybrids. This intricate interplay between RuvA and RuvB in conjunction with the RuvC component orchestrates the resolution of Holliday junctions and facilitates branch migration, highlighting the multifaceted roles of the RuvB protein in DNA repair and replication processes.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA