Recombinant WRN protein (His tag)

Catalog Number	544967
Synonyms	DNA helicase, RecQ-like type 3; RecQ protein-like 2; Werner syndrome protein; DNA 3'-5' helicase WRN
Species	Human
Expression System	E. coli
Accession	Q14191
Molecular Weight	Predictes a molecular mass of 29.41 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 31 kDa band.

Product Information

Sequence Region	44-287
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 44-287 aa (Q14191) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human WRN Protein Fragment (44-287) is a high-purity, functional fragment that encompasses the 3'-5' exonuclease domain of the bifunctional WRN enzyme. This product is an essential tool for researchers investigating DNA repair mechanisms, genome stability, and exonuclease-specific activities in vitro. The full-length WRN protein, encoded by the WRN gene in Homo sapiens, is a multifunctional enzyme with magnesium and ATP-dependent 3'-5' DNA-helicase activity on partially duplex substrates and 3'->5' exonuclease activity towards double-stranded DNA with a 5'-overhang. It plays critical roles in DNA replication, repair of double-strand breaks after gamma-irradiation, and resolution of alternate DNA structures like replication forks and Holliday junctions. WRN binds preferentially to complex DNA substrates and helps alleviate polymerase stalling at DNA lesion sites. Its depletion is linked to chromosomal breaks and genome instability. The protein localizes primarily to the nucleus, including nucleoli and nucleoplasm, and translocates to DNA damage sites upon irradiation, underscoring its importance in maintaining genomic integrity.