Recombinant RTEL1 protein (His tag)

Catalog Number	543771
Synonyms	Novel helicase-like
Species	Human
Expression System	E. coli
Accession	Q9NZ71
Molecular Weight	Predictes a molecular mass of 10.82 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 11 kDa band.

Product Information

Sequence Region	896-977
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 896-977 aa (Q9NZ71) 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 RTEL1 (896-977) Fragment - A high-quality recombinant protein fragment derived from human Regulator of telomere elongation helicase 1, specifically engineered for structural and biochemical studies. This 82-amino acid fragment represents a stable, soluble unit ideal for investigating the molecular mechanisms of telomere maintenance and DNA repair pathways. Regulator of telomere elongation helicase 1 (RTEL1) is a crucial ATP-dependent DNA helicase that plays multiple essential roles in genomic stability. The full-length protein functions as a key regulator of telomere length maintenance and DNA repair processes. RTEL1 acts as an anti-recombinase to prevent toxic recombination events and limit crossovers during meiosis, while also regulating meiotic recombination and crossover homeostasis. It promotes noncrossover repair through meiotic synthesis dependent strand annealing (SDSA) and disassembles D loop recombination intermediates. Additionally, RTEL1 disassembles T loops and counteracts telomeric G4-DNA structures to prevent telomere fragility, thereby ensuring proper telomere dynamics and stability. The protein is localized to the nucleus, where it colocalizes with PCNA within replication foci during S-phase, highlighting its importance in DNA replication and repair processes.