Recombinant ZRAB3 protein (His tag)

Catalog Number	545128
Synonyms	Annealing helicase 2; AH2; Zinc finger Ran-binding domain-containing protein 3
Species	Human
Expression System	E. coli
Accession	Q5FWF4
Molecular Weight	Predictes a molecular mass of 58.32 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 58 kDa band.

Product Information

Sequence Region	1-496
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 1-496 aa (Q5FWF4) 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	Introducing the recombinant ZRANB3 protein fragment (amino acids 1-496), a high-purity tool for studying DNA replication fork stability and genome maintenance. This fragment encompasses the essential Helicase ATP-binding and C-terminal domains, enabling targeted investigation of annealing helicase and endonuclease activities critical for DNA repair mechanisms. The full-length DNA annealing helicase and endonuclease ZRANB3 (Annealing Helicase 2) is a human nuclear protein localized to chromosomes, where it plays a vital role in preserving genome integrity at stalled or collapsed replication forks. ZRANB3 is recruited to DNA damage sites by polyubiquitinated PCNA and facilitates replication fork restart through its dual enzymatic activities. Its structure-specific endonuclease function cleaves D-loop intermediates to generate accessible 3'-OH groups for DNA polymerase extension, while its annealing helicase activity promotes fork regression to prevent double-strand break formation and limit inappropriate recombination during template switching events. This protein is essential for maintaining replication fork stability and preventing genomic instability.