Recombinant APTX protein (His tag)

Catalog Number	542994
Synonyms	Forkhead-associated domain histidine triad-like protein; FHA-HIT
Species	Human
Expression System	E. coli
Accession	Q7Z2E3
Molecular Weight	Predictes a molecular mass of 15.06 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 15 kDa band.

Product Information

Sequence Region	1-116
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 1-116 aa (Q7Z2E3) 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 Aprataxin (APTX) Fragment (1-116) is a high-purity protein encompassing the FHA-like domain, designed for targeted studies of DNA repair mechanisms. This fragment serves as an essential tool for investigating domain-specific interactions and functions in single-strand and double-strand DNA break repair pathways. Aprataxin, encoded by the APTX gene in humans, is a DNA-binding protein critically involved in multiple DNA repair processes, including single-strand break repair, double-strand break repair, and base excision repair. It functions by resolving abortive DNA ligation intermediates, catalyzing the release of adenylate groups from 5'-phosphate termini to enable efficient rejoining of DNA breaks. The protein also exhibits activity in hydrolyzing adenosine 5'-monophosphoramidate and diadenosine tetraphosphate, though with lower catalytic efficiency. Localized primarily in the nucleus—both in the nucleoplasm and nucleolus—Aprataxin translocates to sites of DNA damage upon genotoxic stress, where it colocalizes with repair factors such as XRCC1 and MDC1. Its nucleolar localization depends on interaction with nucleolin (NCL). An alternative isoform (Isoform 12) is found in the cytoplasm. The provided recombinant fragment (residues 1-116) contains the FHA-like domain, enabling focused research on this functional region's role in DNA damage response and repair pathways.