Recombinant APLF protein (His tag)

Catalog Number	538428
Synonyms	Apurinic-apyrimidinic endonuclease APLF; PNK and APTX-like FHA domain-containing protein; XRCC1-interacting protein 1
Species	Human
Expression System	E. coli
Accession	Q8IW19
Molecular Weight	Predictes a molecular mass of 13.22 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 13 kDa band.

Product Information

Sequence Region	1-105
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 1-105 aa (Q8IW19) 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 APLF (Aprataxin and PNK-like factor) fragment (amino acids 1-105) is a highly purified protein designed for structural and biochemical studies. This stable and soluble fragment, derived from the critical DNA repair protein APLF, offers researchers a reliable tool to investigate mechanisms of DNA damage response and chromatin remodeling without the complexities of the full-length protein. APLF (Aprataxin and PNK-like factor) is a multifunctional nuclear protein essential for DNA damage repair in human cells. It functions as a histone chaperone that facilitates histone eviction at DNA break sites and promotes recruitment of the histone variant MACROH2A1 during repair processes. APLF is recruited to sites of single-strand and double-strand DNA breaks through interaction with poly-ADP-ribose chains, where it accelerates DNA strand break repair reactions. The protein also exhibits nuclease activity, displaying apurinic-apyrimidinic (AP) endonuclease and 3'-5' exonuclease capabilities, and can introduce nicks at damaged pyrimidine bases. APLF collaborates with PARP3 to promote retention of the LIG4-XRCC4 complex on chromatin, accelerating DNA ligation during non-homologous end-joining repair. Primarily localized to the nucleus and chromosomes, APLF accumulates at DNA damage sites via its PBZ-type zinc fingers, playing a crucial role in maintaining genomic stability and cellular homeostasis.