Recombinant PARP3 protein (His tag)

Catalog Number	548619
Synonyms	ADP-ribosyltransferase diphtheria toxin-like 3; ARTD3; DNA ADP-ribosyltransferase PARP3; IRT1; NAD(+) ADP-ribosyltransferase 3; ADPRT-3; Poly [ADP-ribose] polymerase 3; PARP-3; hPARP-3; Poly[ADP-ribose] synthase 3; pADPRT-3
Species	Human
Expression System	E. coli
Accession	Q9Y6F1
Molecular Weight	Predictes a molecular mass of 56.71 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 58 kDa band.

Product Information

Sequence Region	46-533
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, 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 46-533 aa (Q9Y6F1) 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 PARP3 (Protein mono-ADP-ribosyltransferase PARP3) Fragment (46-533) is a high-purity protein designed for in-depth study of DNA damage response mechanisms. This 488-amino acid fragment encompasses the essential functional domains—WGR, PARP alpha-helical, and PARP catalytic—making it an ideal reagent for investigating mono-ADP-ribosylation activity, DNA repair pathways, and chromatin regulation in controlled experimental settings. PARP3 is a mono-ADP-ribosyltransferase that plays a critical role in the cellular response to DNA damage, particularly in single- and double-strand break repair. Unlike PARP1 and PARP2, it specifically mediates mono-ADP-ribosylation of target proteins, including histone H2B, XRCC5, and XRCC6, which influences chromatin architecture and DNA metabolism. It localizes predominantly to the nucleus, accumulating at DNA damage sites, and contributes to non-homologous end-joining (NHEJ) by limiting end-resection and promoting accurate ligation. Additionally, PARP3 suppresses G-quadruplex structures and has been shown to ADP-ribosylate DNA termini, underscoring its multifaceted role in genomic stability. Its involvement in centrosomal organization further links DNA damage surveillance to mitotic fidelity.