Data Sheet (Cat.No.TMPY-07050)

TargetMol

PARP1 Protein, Human, Recombinant (Avi & His), Biotinylated

General Information

Synonyms:	PARP;ADPRT;PARS;pADPRT-1;Poly-PARP;ADPRT 1;ADPRT1;PARP-1;ARTD1
Protein Construction:	A DNA sequence encoding the Human PARP1 (NP_001609.2)(Met1-Trp1014) was expressed with a C-terminal polyhistidine tag followed by an AVI tag. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed.
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P09874
Molecular Weight:	116.35 kDa (predicted); 104.5 kDa (reducing contition)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 90% as determined by SDS-PAGE. ≥ 90% as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from sterile 20 mM Tris, 300mM NaCl, 10% glycerol, 0.5mM TCEP, 2mM EDTA, pH 7.5. Please contact us for any concerns or special requirements. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hardcopy of datasheet or the lot-specific COA.

Preparation and Storage

Reconstitution:

Please refer to the lot-specific COA.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Poly (ADP-ribose) polymerase 1(PRAP1), also known as NAD(+) ADP-ribosyltransferase 1(ADPRT), is a chromatin-associated enzyme that modifies various nuclear proteins by poly(ADP-ribosyl)ation. The ADP-D-ribosyl group of NAD+ is transferred to an acceptor carboxyl group on a histone or the enzyme itself, and further ADP-ribosyl

groups are transferred to the 2'-position of the terminal adenosine moiety, building up a polymer with an average chain length of 2-3 units. The poly(ADP-ribosyl)ation modification is critical for a wide range of processes, including DNA repair, regulation of chromosome structure, transcriptional regulation, mitosis and apoptosis. PARP1 is demonstrated to mediate the poly(ADP-ribose) ation of APLF (aprataxin PNK-like factor) and CHFR (checkpoint protein with FHA and RING domains), two representative proteins involved in the DNA damage response and checkpoint regulation. Further, It has been suggested that DNA-dependent protein kinase (DNA-PK), another component of DNA repair, suppresses PARP activity, probably through direct binding and/or sequestration of DNA-ends which serve as an important stimulator for both enzymes. PARP1 inhibitors are thus proposed as a targeted cancer therapy for recombination deficient cancers, such as BRCA2 tumors.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy