

## Recombinant Human PARP-1 Protein (His Tag)

Catalog Number: PKSH031294

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

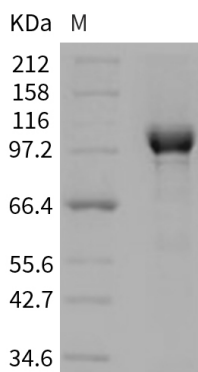
### Description

<b>Species</b>	Human
<b>Source</b>	Baculovirus-Insect Cells-derived Human PARP-1 protein Met 1-Trp 1014, with an C-terminal His
<b>Calculated MW</b>	114.5 kDa
<b>Observed MW</b>	100-110 kDa
<b>Accession</b>	NP_001609.2
<b>Bio-activity</b>	Immobilized human PARP1 at 10 µg/mL (100 µl/well) can bind biotinylated human HSP70, The EC <sub>50</sub> of biotinylated human HSP70 is 0.035 µg/mL.

### Properties

<b>Purity</b>	> 90 % as determined by reducing SDS-PAGE.
<b>Concentration</b>	Subject to label value.
<b>Endotoxin</b>	< 1.0 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.
<b>Shipping</b>	This product is provided as liquid. It is shipped at frozen temperature with blue ice/ gel packs. Upon receipt, store it immediately at < -20°C.
<b>Formulation</b>	Supplied as sterile 20 mM Tris, 300 mM NaCl, 10 % glycerol, 0.5 mM TCEP, 2mM EDTA, pH 7.5.

### Data



> 90 % as determined by reducing SDS-PAGE.

### Background

#### For Research Use Only

Poly (ADP-ribose) polymerase 1 (PARP1), also known as NAD(+) ADP-ribosyltransferase 1 (ADPRT), is a chromatin-associated enzyme which modifies various nuclear proteins by poly(ADP-ribosyl)ation. The ADP-D-ribosyl group of NAD<sup>+</sup> 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 20-30 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. Furthermore, 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 is thus proposed as a targeted cancer therapy for recombination deficient cancers, such as BRCA2 tumors.

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