Recombinant Human PARP-1 Protein (His Tag)

Catalog No. PKSH031294

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

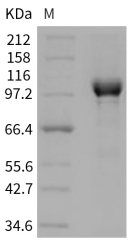
Description

Synonyms	ADPRT;ADPRT1;ARTD1;pADPRT-1;PARP;PARP-1;PPOL
Species	Human
Expression Host	Baculovirus-Insect Cells
Sequence	Met 1-Trp 1014
Accession	NP_001609.2
Calculated Molecular Weight	114.5 kDa
Observed molecular weight	100-110 kDa
Tag	C-His
Bioactivity	Immobilized human PARP1 at 10 μg/mL (100 μl/well) can bind biotinylated human HSP70, The EC50 of biotinylated human HSP70 is 0.035 μg/mL.

Properties

Purity	> 90 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.
Shipping	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.
Formulation	Supplied as sterile 20 mM Tris, 300 mM NaCl, 10 % glycerol, 0.5 mM TCEP, 2mM EDTA, pH 7.5.
Reconstitution	Not Applicable

Data



> 90 % as determined by reducing SDS-PAGE.

Background

Poly (ADP-ribose) polymerase 1(PRAP1), 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+ 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

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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 demonstrateed 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 is thus proposed as a targeted cancer therapy for recombination deficient cancers, such as BRCA2 tumors.

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