

PARP3 Protein, Human, Recombinant (His & GST)

General Information

Synonyms:	ARTD3;IRT1;ADPRTL2;ADPRTL3;poly (ADP-ribose) polymerase family, member 3;PADPRT-3;ADPRT3
Protein Construction:	A DNA sequence encoding the C-terminal segment of human PARP3 isoform 1 (Q9Y6F1-1) (Met 1-Leu 533) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9Y6F1-1
Molecular Weight:	87.8 kDa (predicted); 95 kDa (reducing conditions)

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:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 8.0, 10% gly. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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 3 (PARP3) is an important member of the PARP family and shares high structural similarities with both PARP1 and PARP2. Poly(ADP-ribose) polymerase 3 (PARP3), a critical player in cellular response to DNA double-strand breaks (DSBs), plays an essential role in the maintenance of genome integrity. The

ADP ribosyl transferase [poly(ADP-ribose) polymerase] ARTD3(PARP3) is a newly characterized member of the ARTD(PARP) family that catalyzes the reaction of ADP ribosylation, a key posttranslational modification of proteins involved in different signaling pathways from DNA damage to energy metabolism and organismal memory.

Reference

- Loseva O, et al. (2010) PARP-3 is a mono-ADP-ribosylase that activates PARP-1 in the absence of DNA. *J Biol Chem.* 285(11): 8054-60.
- Lehtio L, et al. (2009) Structural basis for inhibitor specificity in human poly(ADP-ribose) polymerase-3. *J Med Chem.* 52(9): 3108-11.
- Rouleau M, et al. (2009) Assessment of PARP-3 distribution in tissues of cynomolgous monkeys. *J Histochem Cytochem.* 57(7): 675-85.
- Rouleau M, et al. (2007) PARP-3 associates with polycomb group bodies and with components of the DNA damage repair machinery. *J Cell Biochem.* 100(2): 385-401.
- Augustin A, et al. (2003) PARP-3 localizes preferentially to the daughter centriole and interferes with the G1/S cell cycle progression. *J Cell Sci.* 116(Pt 8): 1551-62.

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