

**PARP3 Blocking Peptide (N-term)**

Synthetic peptide

Catalog # BP20360a

**Specification****PARP3 Blocking Peptide (N-term) - Product Information**

Primary Accession

[Q9Y6F1](#)**PARP3 Blocking Peptide (N-term) - Additional Information**

Gene ID 10039

**Other Names**

Poly [ADP-ribose] polymerase 3, PARP-3, hPARP-3, ADP-ribosyltransferase diphtheria toxin-like 3, ARTD3, IRT1, NAD(+) ADP-ribosyltransferase 3, ADPRT-3, Poly[ADP-ribose] synthase 3, pADPRT-3, PARP3, ADPRT3, ADPRTL3

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**PARP3 Blocking Peptide (N-term) - Protein Information****Name** PARP3 {ECO:0000303|PubMed:10329013, ECO:0000312|HGNC:HGNC:273}**Function**

Mono-ADP-ribosyltransferase that mediates mono-ADP- ribosylation of target proteins and plays a key role in the response to DNA damage (PubMed:<a href="http://www.uniprot.org/citations/16924674" target="\_blank">16924674</a>, PubMed:<a href="http://www.uniprot.org/citations/19354255" target="\_blank">19354255</a>, PubMed:<a href="http://www.uniprot.org/citations/20064938" target="\_blank">20064938</a>, PubMed:<a href="http://www.uniprot.org/citations/21211721" target="\_blank">21211721</a>, PubMed:<a href="http://www.uniprot.org/citations/21270334" target="\_blank">21270334</a>, PubMed:<a href="http://www.uniprot.org/citations/23742272" target="\_blank">23742272</a>, PubMed:<a href="http://www.uniprot.org/citations/24598253" target="\_blank">24598253</a>, PubMed:<a href="http://www.uniprot.org/citations/25043379" target="\_blank">25043379</a>, PubMed:<a href="http://www.uniprot.org/citations/28447610" target="\_blank">28447610</a>). Mediates mono-ADP-ribosylation of glutamate, aspartate or lysine residues on target proteins (PubMed:<a href="http://www.uniprot.org/citations/20064938" target="\_blank">20064938</a>, PubMed:<a href="http://www.uniprot.org/citations/25043379" target="\_blank">25043379</a>). In contrast to PARP1 and PARP2, it is not able to mediate poly-ADP-ribosylation (PubMed:<a href="http://www.uniprot.org/citations/25043379" target="\_blank">25043379</a>). Involved in

DNA repair by mediating mono-ADP-ribosylation of a limited number of acceptor proteins involved in chromatin architecture and in DNA metabolism, such as histone H2B, XRCC5 and XRCC6 (PubMed:<a href="http://www.uniprot.org/citations/16924674" target="\_blank">16924674</a>, PubMed:<a href="http://www.uniprot.org/citations/24598253" target="\_blank">24598253</a>). ADP-ribosylation follows DNA damage and appears as an obligatory step in a detection/signaling pathway leading to the reparation of DNA strand breaks (PubMed:<a href="http://www.uniprot.org/citations/16924674" target="\_blank">16924674</a>, PubMed:<a href="http://www.uniprot.org/citations/21211721" target="\_blank">21211721</a>, PubMed:<a href="http://www.uniprot.org/citations/21270334" target="\_blank">21270334</a>). Involved in single-strand break repair by catalyzing mono-ADP-ribosylation of histone H2B on 'Glu-2' (H2BE2ADPr) of nucleosomes containing nicked DNA (PubMed:<a href="http://www.uniprot.org/citations/27530147" target="\_blank">27530147</a>). Cooperates with the XRCC5-XRCC6 (Ku80-Ku70) heterodimer to limit end-resection thereby promoting accurate NHEJ (PubMed:<a href="http://www.uniprot.org/citations/24598253" target="\_blank">24598253</a>). Suppresses G-quadruplex (G4) structures in response to DNA damage (PubMed:<a href="http://www.uniprot.org/citations/28447610" target="\_blank">28447610</a>). Associates with a number of DNA repair factors and is involved in the response to exogenous and endogenous DNA strand breaks (PubMed:<a href="http://www.uniprot.org/citations/16924674" target="\_blank">16924674</a>, PubMed:<a href="http://www.uniprot.org/citations/21211721" target="\_blank">21211721</a>, PubMed:<a href="http://www.uniprot.org/citations/21270334" target="\_blank">21270334</a>). Together with APLF, promotes the retention of the LIG4-XRCC4 complex on chromatin and accelerate DNA ligation during non-homologous end-joining (NHEJ) (PubMed:<a href="http://www.uniprot.org/citations/21211721" target="\_blank">21211721</a>). May link the DNA damage surveillance network to the mitotic fidelity checkpoint (PubMed:<a href="http://www.uniprot.org/citations/16924674" target="\_blank">16924674</a>). Acts as a negative regulator of immunoglobulin class switch recombination, probably by controlling the level of AICDA /AID on the chromatin (By similarity). In addition to proteins, also able to ADP-ribosylate DNA: mediates DNA mono-ADP- ribosylation of DNA strand break termini via covalent addition of a single ADP-ribose moiety to a 5'- or 3'-terminal phosphate residues in DNA containing multiple strand breaks (PubMed:<a href="http://www.uniprot.org/citations/29361132" target="\_blank">29361132</a>, PubMed:<a href="http://www.uniprot.org/citations/29520010" target="\_blank">29520010</a>).

### Cellular Location

Nucleus. Chromosome. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole. Note=Almost exclusively localized in the nucleus and appears in numerous small foci and a small number of larger foci whereas a centrosomal location has not been detected (PubMed:16924674). In response to DNA damage, localizes to sites of double-strand break (PubMed:21270334, PubMed:28447610). Also localizes to single-strand breaks (PubMed:27530147). Preferentially localized to the daughter centriole (PubMed:10329013).

### Tissue Location

Widely expressed; the highest levels are in the kidney, skeletal muscle, liver, heart and spleen; also detected in pancreas, lung, placenta, brain, leukocytes, colon, small intestine, ovary, testis, prostate and thymus.

## PARP3 Blocking Peptide (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

## PARP3 Blocking Peptide (N-term) - Images

## PARP3 Blocking Peptide (N-term) - Background

Involved in the base excision repair (BER) pathway, by catalyzing the poly(ADP-ribosyl)ation of a limited number of acceptor proteins involved in chromatin architecture and in DNA metabolism. This modification follows DNA damages and appears as an obligatory step in a detection/signaling pathway leading to the reparation of DNA strand breaks. May link the DNA damage surveillance network to the mitotic fidelity checkpoint. Negatively influences the G1/S cell cycle progression without interfering with centrosome duplication. Binds DNA. May be involved in the regulation of PRC2 and PRC3 complex-dependent gene silencing.