10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PARP3 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5272

Product Information

Application	WB
Primary Accession	Q9Y6F1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	60089
Isotype	Rabbit IgG
Antigen Source	Human

Additional Information

Gene ID	10039
Antigen Region	99-126
Other Names	PARP3;ADPRT3; ADPRTL3; Poly [ADP-ribose] polymerase 3; Poly [ADP-ribose] polymerase 3; ADP-ribosyltransferase diphtheria toxin-like 3; Poly [ADP-ribose] polymerase 3; IRT1; Poly [ADP-ribose] polymerase 3; NAD(+) ADP-ribosyltransferase 3; Poly [ADP-ribose] polymerase 3; Poly[ADP-ribose] synthase 3
Dilution	WB~~ 1:1000
Target/Specificity	This PARP3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 99-126 amino acids from the N-terminal region of human PARP3.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PARP3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

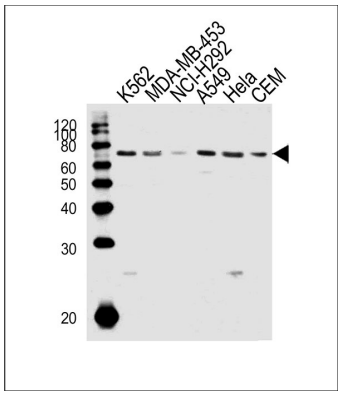
Name	PARP3 {ECO:0000303|PubMed:10329013, ECO:0000312|HGNC:HGNC:273}

Function	Mono-ADP-ribosyltransferase that mediates mono-ADP- ribosylation of target proteins and plays a key role in the response to DNA damage (PubMed:16924674, PubMed:19354255, PubMed:20064938, PubMed:21211721, PubMed:21270334, PubMed:23742272, PubMed:24598253, PubMed:25043379, PubMed:28447610). Mediates mono-ADP-ribosylation of glutamate, aspartate or lysine residues on target proteins (PubMed:20064938, PubMed:25043379). In contrast to PARP1 and PARP2, it is not able to mediate poly-ADP-ribosylation (PubMed:25043379). 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:16924674, PubMed:24598253). 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:16924674, PubMed:21211721, PubMed:21270334). Involved in single-strand break repair by catalyzing mono-ADP-ribosylation of histone H2B on 'Glu-2' (H2BE2ADPr) of nucleosomes containing nicked DNA (PubMed:27530147). Cooperates with the XRCC5-XRCC6 (Ku80-Ku70) heterodimer to limit end-resection thereby promoting accurate NHEJ (PubMed:24598253). Suppresses G-quadruplex (G4) structures in response to DNA damage (PubMed:28447610). Associates with a number of DNA repair factors and is involved in the response to exogenous and endogenous DNA strand breaks (PubMed:16924674, PubMed:21211721, PubMed:21270334). Together with APLF, promotes the retention of the LIG4-XRCC4 complex on chromatin and accelerate DNA ligation during non-homologous end-joining (NHEJ) (PubMed:21211721). May link the DNA damage surveillance network to the mitotic fidelity checkpoint (PubMed:16924674). 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:29361132, PubMed:29520010).
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.

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.

Images



Western blot analysis of lysates from K562,MDA-MB-453,NCI-H292,A549,Hela,CEM cell line (from left to right), using PARP3 Antibody (N-term)(Cat. #AW5272). AW5272 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.