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PARP2 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12345b

Product Information

Application	WB, E
Primary Accession	O88554
Other Accession	NP_033762.1
Reactivity	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14156
Calculated MW	63397
Antigen Region	306-336

Additional Information

Gene ID	11546
Other Names	Poly [ADP-ribose] polymerase 2, PARP-2, mPARP-2, ADP-ribosyltransferase diphtheria toxin-like 2, ARTD2, NAD(+) ADP-ribosyltransferase 2, ADPRT-2, Poly[ADP-ribose] synthase 2, pADPRT-2, Parp2, Adprt2, Adprtl2, Aspartl2
Target/Specificity	This PARP2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 306-336 amino acids from the C-terminal region of human PARP2.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	PARP2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Parp2
Synonyms	Adprt2, Adprtl2, Aspartl2

Function	Poly-ADP-ribosyltransferase that mediates poly-ADP- ribosylation of proteins and plays a key role in DNA repair (PubMed:10364231, PubMed:12065591). Mediates glutamate, aspartate or serine ADP-ribosylation of proteins: the ADP-D-ribosyl group of NAD(+) is transferred to the acceptor carboxyl group of target residues 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 (PubMed:12065591). Serine ADP-ribosylation of proteins constitutes the primary form of ADP-ribosylation of proteins in response to DNA damage (By similarity). Mediates glutamate and aspartate ADP-ribosylation of target proteins in absence of HPF1 (By similarity). Following interaction with HPF1, catalyzes serine ADP- ribosylation of target proteins; HPF1 conferring serine specificity by completing the PARP2 active site (By similarity). PARP2 initiates the repair of double-strand DNA breaks: recognizes and binds DNA breaks within chromatin and recruits HPF1, licensing serine ADP-ribosylation of target proteins, such as histones, thereby promoting decompaction of chromatin and the recruitment of repair factors leading to the reparation of DNA strand breaks (By similarity). HPF1 initiates serine ADP-ribosylation but restricts the polymerase activity of PARP2 in order to limit the length of poly-ADP-ribose chains (By similarity). Specifically mediates formation of branched poly-ADP-ribosylation (By similarity). Branched poly-ADP-ribose chains are specifically recognized by some factors, such as APLF (By similarity). In addition to proteins, also able to ADP-ribosylate DNA: preferentially acts on 5'-terminal phosphates at DNA strand breaks termini in nicked duplex (By similarity).
Cellular Location	Nucleus. Chromosome {ECO:0000250|UniProtKB:Q9UGN5}. Note=Recruited to DNA damage sites in a PARP1-dependent process: recognizes and binds poly-ADP-ribose chains produced by PARP1 at DNA damage sites via its N-terminus, leading to its recruitment. {ECO:0000250|UniProtKB:Q9UGN5}
Tissue Location	Widely expressed; the highest levels were in testis followed by ovary (PubMed:11133988). Expression is correlated with proliferation, with higher levels occurring during early fetal development and organogenesis and in the highly proliferative cell compartments of adult (PubMed:11948190).

Background

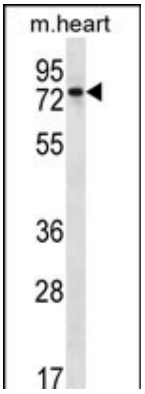
Parp2 is involved in the base excision repair (BER) pathway, by catalyzing the poly(ADP-ribosyl)ation of a limited number of acceptor proteins involved in chromatin architecture and in DNA metabolism. This modification follows DNA damages and appears as an obligatory step in a detection/signaling pathway leading to the reparation of DNA strand breaks.

References

Brunyanszki, A., et al. J. Invest. Dermatol. 130(11):2629-2637(2010)
Toller, I.M., et al. Cancer Res. 70(14):5912-5922(2010)
Nicolas, L., et al. Oncogene 29(19):2877-2883(2010)
Li, X., et al. J. Neurochem. 113(4):1012-1022(2010)
Quenet, D., et al. Exp. Cell Res. 315(16):2824-2834(2009)

Images

PARP2 Antibody (C-term) (Cat. #AP12345b) western blot analysis in mouse heart tissue lysates (35ug/lane).This demonstrates the PARP2 antibody detected the PARP2



protein (arrow).