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

Parg Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7283a

Product Information

Application	IHC-P, E
Primary Accession	Q86W56
Other Accession	O88622
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14199
Calculated MW	111110
Antigen Region	332-361

Additional Information

Gene ID	8505
Other Names	Poly(ADP-ribose) glycohydrolase, PARG
Target/Specificity	This Parg antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 332~361 amino acids from the N-terminal region of human Parg.
Dilution	IHC-P~~1:100~500 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	Parg Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PARG {ECO:0000303|PubMed:14527731, ECO:0000312|HGNC:HGNC:8605}
Function	Poly(ADP-ribose) glycohydrolase that degrades poly(ADP- ribose) by hydrolyzing the ribose-ribose bonds present in poly(ADP- ribose) (PubMed:15450800, PubMed:21892188, PubMed:23102699,

PubMed:23474714, PubMed:33186521, PubMed:34019811, PubMed:34321462). PARG acts both as an endo- and exoglycosidase, releasing poly(ADP- ribose) of different length as well as ADP-ribose monomers (PubMed:23102699, PubMed:23481255). It is however unable to cleave the ester bond between the terminal ADP-ribose and ADP-ribosylated residues, leaving proteins that are mono-ADP-ribosylated (PubMed:21892188, PubMed:23474714, PubMed:33186521). Poly(ADP-ribose) is synthesized after DNA damage is only present transiently and is rapidly degraded by PARG (PubMed:23102699, PubMed:34019811). Required to prevent detrimental accumulation of poly(ADP-ribose) upon prolonged replicative stress, while it is not required for recovery from transient replicative stress (PubMed:24906880). Responsible for the prevalence of mono-ADP-ribosylated proteins in cells, thanks to its ability to degrade poly(ADP-ribose) without cleaving the terminal protein-ribose bond (PubMed:33186521). Required for retinoid acid- dependent gene transactivation, probably by removing poly(ADP-ribose) from histone demethylase KDM4D, allowing chromatin derepression at RAR- dependent gene promoters (PubMed:23102699). Involved in the synthesis of ATP in the nucleus, together with PARP1, NMNAT1 and NUDT5 (PubMed:27257257). Nuclear ATP generation is required for extensive chromatin remodeling events that are energy-consuming (PubMed:27257257).

Cellular Location

[Isoform 1]: Nucleus Note=Colocalizes with PCNA at replication foci (PubMed:21398629) Relocalizes to the cytoplasm in response to DNA damage (PubMed:16460818). [Isoform 3]: Cytoplasm [Isoform 5]: Mitochondrion matrix

Tissue Location

Ubiquitously expressed.

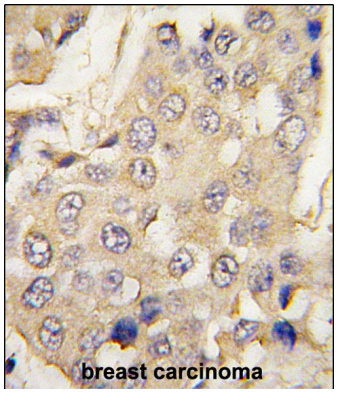
Background

Poly(ADP-ribose) glycohydrolase (PARG) is the major enzyme responsible for the catabolism of poly(ADP-ribose), a reversible covalent-modifier of chromosomal proteins. The protein is found in many tissues and may be subject to proteolysis generating smaller, active products.

References

Meyer,R.G., Exp. Cell Res. 313 (13), 2920-2936 (2007)
Fisher,A.E., Mol. Cell. Biol. 27 (15), 5597-5605 (2007)
Keil,C., J. Biol. Chem. 281 (45), 34394-34405 (2006)

Images



Formalin-fixed and paraffin-embedded human breast carcinoma tissue reacted with Parg antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.