Revision 1

#66564 Store at -20C

PARG (D4E6X) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H Mk	Endogenous	130	Rabbit IgG	#Q86W56	8505

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

PARG (D4E6X) Rabbit mAb recognizes endogenous levels of total PARG protein. This antibody specifically recognizes PARG isoform 1 (UniProt #Q86W56-1) and does not recognize other PARG isoforms.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human PARG protein.

Background

Poly (ADP-ribose) glycohydrolase (PARG) is an enzyme that hydrolyzes poly (ADP-ribose) (PAR) formed by members of the PAR polymerase (PARP) enzyme family. Poly (ADP)-ribosylation is a post-translational modification that is catalyzed by PARP proteins. This modification involves polymerization of ADP-ribose from NAD+ to target proteins, such as histones and transcription factors, and plays a wide range of biological roles, including the response to DNA damage and transcriptional regulation (1,2). The mammalian PARG enzyme that catalyzes the removal of this modification exists as multiple isoforms. PARG isoforms 1-3 shuttle between the nucleus and cytoplasm and are responsible for most of the PARG activity. The smaller isoforms 4 and 5 reside in the cytoplasm (3-5). Research studies link altered PAR metabolism to inflammatory and autoimmune diseases, as well as neuronal degeneration (6-8). PARG inhibitors that increase PAR levels may sensitize cells to cancer treatments (e.g., cisplatin) and may help in the development of cancer therapies (9).

Background References

1. Thomas, C. and Tulin, A.V. (2013) *Mol Aspects Med* 34, 1124-37.
2. Li, N. and Chen, J. (2014) *Mol Cells* 37, 9-16.
3. Meyer-Ficca, M.L. et al. (2004) *Exp Cell Res* 297, 521-32.
4. Meyer-Ficca, M.L. et al. (2005) *Int J Biochem Cell Biol* 37, 920-6.
5. Bonicalzi, M.E. et al. (2003) *Biol Cell* 95, 635-44.
6. Cortes, U. et al. (2004) *Mol Cell Biol* 24, 7163-78.
7. Masutani, M. et al. (2005) *Cell Mol Life Sci* 62, 769-83.
8. Ying, W. and Swanson, R.A. (2000) *Neuroreport* 11, 1385-8.
9. Fauzee, N.J. et al. (2010) *Pathol Oncol Res* 16, 469-78.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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