SANTA CRUZ BIOTECHNOLOGY, INC.

pADPr (10H): sc-56198

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Poly(ADP-ribosylation) is a method of DNA damage-dependent posttranslational modification that helps to rescue injured proliferating cells from cell death. The PARP (poly[ADP-ribose] polymerase) proteins comprise a superfamily of enzymes that functionally modify histones and other nuclear proteins, thereby preventing cell death. PARPs use NAD^+ as a substrate to catalytically transfer ADP-ribose residues onto protein acceptors; a process that, when repeated multiple times, leads to the formation of poly(ADP-ribose) (pADPr) chains that exist either independently or attached to a target protein. The presence of these chains alters the function of the target protein and promotes cell survival. Additionally, pADPr chains are thought to be important for cell-cycle progression and cellular responses to DNA damage.

REFERENCES

1. Hans, M.A., et al. 1999. Overexpression of dominant negative PARP interferes with tumor formation of HeLa cells in nude mice: evidence for increased tumor cell apoptosis *in vivo*. Oncogene 18: 7010-7015.
2. Gagne, J.P., et al. 2001. Analysis of ADP-ribose polymer sizes in intact cells. Mol. Cell. Biochem. 224: 183-185.
3. Aguiar, R.C., et al. 2005. B-aggressive lymphoma family proteins have unique domains that modulate transcription and exhibit poly(ADP-ribose) polymerase activity. J. Biol. Chem. 280: 33756-33765.
4. Chou, H.Y., et al. 2006. Cdk-dependent activation of poly(ADP-ribose) polymerase member 10 (PARP-10). J. Biol. Chem. 281: 15201-15207.
5. Gagné, J.P., et al. 2006. The expanding role of poly(ADP-ribose) metabolism: current challenges and new perspectives. Curr. Opin. Cell Biol. 18: 145-151.
6. Goenka, S., et al. 2007. Collaborator of Stat6 (CoaSt6)-associated poly(ADP-ribose) polymerase activity modulates Stat6-dependent gene transcription. J. Biol. Chem. 282: 18732-18739.

SOURCE

pADPr (10H) is a mouse monoclonal antibody raised against poly(ADP-ribose) mixed with methylated bovine serum albumin.

PRODUCT

Each vial contains 100 µg IgG_3 in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

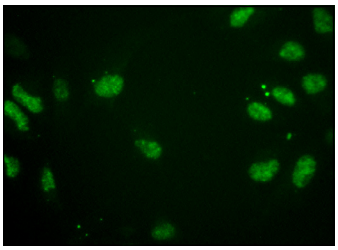
APPLICATIONS

pADPr (10H) is recommended for detection of poly(ADP-ribose) polymer (pADPr) synthesized by a variety of pADPr polymerase (PARP)-related enzymes including PARP-1, -2, -3, tankyrase, vPARP, sPARP and others. by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with ADP-ribose, 5'-AMP, or yeast RNA and may cross-react with bovine serum albumin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



pADPr (10H): sc-56198. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization. Kindly provided by Yang Xiang, Ph.D., Division of Newborn Medicine, Boston Children's Hospital, Cell Biology Department, Harvard Medical School.

SELECT PRODUCT CITATIONS

1. Picard, N., et al. 2008. Phosphorylation of activation function-1 regulates proteasome-dependent nuclear mobility and E6-associated protein ubiquitin ligase recruitment to the estrogen receptor β. Mol. Endocrinol. 22: 317-330.
2. Gottipati, P., et al. 2010. Poly(ADP-ribose) polymerase is hyperactivated in homologous recombination-defective cells. Cancer Res. 70: 5389-5398.
3. Bueno, M.T., et al. 2013. Poly(ADP-ribose) polymerase 1 promotes transcriptional repression of integrated retroviruses. J. Virol. 87: 2496-2507.
4. Wu, Z., et al. 2015. An LRP16-containing preassembly complex contributes to NFκB activation induced by DNA double-strand breaks. Nucleic Acids Res. 43: 3167-3179.
5. Kwon, S.Y., et al. 2016. Genome-wide mapping targets of the metazoan chromatin remodeling factor NURF reveals nucleosome remodeling at enhancers, core promoters and gene insulators. PLoS Genet. 12: e1005969.
6. Asim, M., et al. 2017. Synthetic lethality between androgen receptor signalling and the PARP pathway in prostate cancer. Nat. Commun. 8: 374.
7. Huang, S., et al. 2018. Poly(ADP-ribose) polymerase inhibitor PJ34 attenuated hepatic triglyceride accumulation in alcoholic fatty liver disease in mice. J. Pharmacol. Exp. Ther. 364: 452-461.
8. Karapetian, M., et al. 2019. Genotoxic effects of topoisomerase poisoning and PARP inhibition on zebrafish embryos. DNA Repair 87: 102772.
9. Yeo, D., et al. 2020. Aging alters acetylation status in skeletal and cardiac muscles. Geroscience 42: 963-976.
10. Cabrini, M., et al. 2021. DROSHA is recruited to DNA damage sites by the MRN complex to promote non-homologous end-joining. J. Cell Sci. 134: jcs249706.

RESEARCH USE

For research use only, not for use in diagnostic procedures.