SANTA CRUZ BIOTECHNOLOGY, INC.

cleaved PARP-1 (194C1439): sc-56196

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Poly(ADP-ribose) polymerase-1 (PARP-1), also designated PARP, is a nuclear DNA-binding zinc finger protein that influences DNA repair, DNA replication, modulation of chromatin structure and apoptosis. In response to genotoxic stress, PARP-1 catalyzes the transfer of ADP-ribose units from NAD^+ to a number of acceptor molecules including chromatin. PARP-1 recognizes DNA strand interruptions and can complex with RNA and negatively regulate transcription. Actinomycin D- and etoposide-dependent induction of caspases mediates cleavage of PARP-1 into a p89 fragment that traverses into the cytoplasm. Apoptosis-inducing factor (AIF) translocation from the mitochondria to the nucleus is PARP-1-dependent and is necessary for PARP-1-dependent cell death. PARP-1 deficiencies lead to chromosomal instability due to higher frequencies of chromosome fusions and aneuploidy, suggesting that poly(ADP-ribosyl)ation contributes to the efficient maintenance of genome integrity.

CHROMOSOMAL LOCATION

Genetic locus: PARP1 (human) mapping to 1q42.12; Parp1 (mouse) mapping to 1 H4.

SOURCE

cleaved PARP-1 (194C1439) is a mouse monoclonal antibody raised against a short amino acid sequence containing the neoepitope at raised against a synthetic peptide with epitope mapping near the C-terminal cleavage site of human PARP-1.

PRODUCT

Each vial contains 50 µg IgG_{2b} in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

cleaved PARP-1 (194C1439) is recommended for detection of the C-terminal cleavage product of PARP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for PARP-1 siRNA (h): sc-29437, PARP-1 siRNA (m): sc-29438, PARP-1 shRNA Plasmid (h): sc-29437-SH, PARP-1 shRNA Plasmid (m): sc-29438-SH, PARP-1 shRNA (h) Lentiviral Particles: sc-29437-V and PARP-1 shRNA (m) Lentiviral Particles: sc-29438-V.

Molecular Weight of full-length PARP-1: 116 kDa.

Molecular Weight of PARP-1 C-terminal cleavage product: 89 kDa.

Molecular Weight of PARP-1 N-terminal cleavage product: 24 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

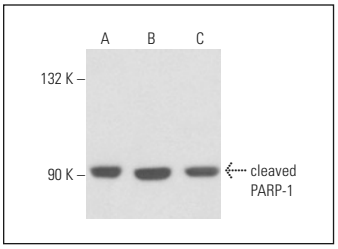
STORAGE

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

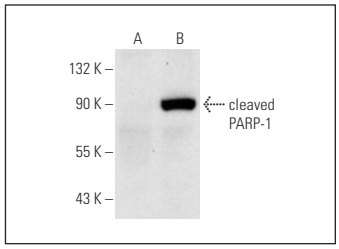
RESEARCH USE

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

DATA



cleaved PARP-1 (194C1439): sc-56196. Western blot analysis of cleaved PARP-1 expression in IMR-32 (**A**), Jurkat (**B**) and HeLa (**C**) whole cell lysates.



cleaved PARP-1 (194C1439): sc-56196. Western blot analysis of cleaved PARP-1 expression in untreated (**A**) and Etoposide (sc-3512) treated (**B**) Jurkat whole cell lysates. Note cleaved PARP-1 expression in lane **B**.

SELECT PRODUCT CITATIONS

1. Tang, L., et al. 2006. Potent activation of mitochondria-mediated apoptosis and arrest in S and M phases of cancer cells by a broccoli sprout extract. Mol. Cancer Ther. 5: 935-944.
2. Sen, S., et al. 2012. Maintenance of higher H_2O_2 levels, and its mechanism of action to induce growth in breast cancer cells: important roles of bioactive catalase and PP2A. Free Radic. Biol. Med. 53: 1541-1551.
3. Hsieh, S.C., et al. 2013. α-mangostin induces mitochondrial dependent apoptosis in human hepatoma SK-Hep-1 cells through inhibition of p38 MAPK pathway. Apoptosis 18: 1548-1560.
4. Zhao, C., et al. 2014. Molecular cloning, expression, and anti-tumor activity of a novel serine protease from *Arenicola cristata*. Acta Biochim. Biophy. Sin. 46: 450-459.
5. Meynier, S., et al. 2015. Role of PAR-4 in ovarian cancer. Oncotarget 6: 22641-22652.
6. Lee, J.H., et al. 2016. Antioxidant effects of *Cirsium setidens* extract on oxidative stress in human mesenchymal stem cells. Mol. Med. Rep. 14: 3777-3784.
7. Zhou, Y., et al. 2017. Pifithrin-μ is efficacious against non-small cell lung cancer via inhibition of heat shock protein 70. Oncol. Rep. 37: 313-322.
8. Chen, X., et al. 2018. Mitochondrial pathway-mediated apoptosis is associated with erlotinib-induced cytotoxicity in hepatic cells. Oncol. Lett. 15: 783-788.
9. Liu, Y.T., et al. 2019. Lotus seedpod extracts reduced lipid accumulation and lipotoxicity in hepatocytes. Nutrients 11: 2895.
10. Lv, L., et al. 2020. Hispidulin exhibits potent anticancer activity *in vitro* and *in vivo* through activating ER stress in non-small-cell lung cancer cells. Oncol. Rep. 43: 1995-2003.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.