SANTA CRUZ BIOTECHNOLOGY, INC.

PARP-1 (42): sc-136208

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

PARP-1 (42) is a mouse monoclonal antibody raised against amino acids 22-219 of PARP-1 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PARP-1 (42) is recommended for detection of PARP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

PARP-1 (42) is also recommended for detection of PARP-1 in additional species, including canine.

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: HeLa whole cell lysate: sc-2200, Ramos nuclear extract: sc-2153 or Jurkat whole cell lysate: sc-2204.

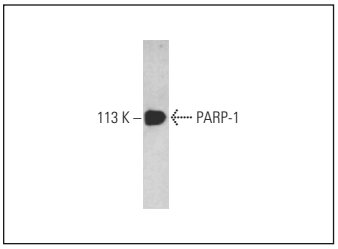
STORAGE

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

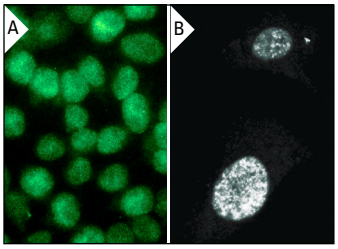
RESEARCH USE

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

DATA



PARP-1 (42): sc-136208. Western blot analysis of PARP-1 expression in Jurkat whole cell lysate.



PARP-1 (42): sc-136208. Immunofluorescence staining of methanol-fixed HeLa (**A**) and BC_3H1 cells (**B**) showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2017. Resveratrol protects against oxidized low-density lipoprotein-induced human umbilical vein endothelial cell apoptosis via inhibition of mitochondrial-derived oxidative stress. Mol. Med. Rep. 15: 2457-2464.
2. Cai, L., et al. 2018. Role of inhibitor of growth 4 in the suppression of human melanoma cells through the Fas/Fas_L-mediated apoptosis pathway. Int. J. Mol. Med. 41: 1055-1061.
3. Wang, H., et al. 2018. PSMB4 overexpression enhances the cell growth and viability of breast cancer cells leading to a poor prognosis. Oncol. Rep. 40: 2343-2352.
4. Wang, Y., et al. 2019. HOXC6 promotes cervical cancer progression via regulation of Bcl-2. FASEB J. 33: 3901-3911.
5. Sun, G., et al. 2019. WZY-321, a novel evodiamine analog, inhibits glioma cell growth in an autophagy-associated manner. Oncol. Lett. 17: 2465-2472.
6. Wang, J.Q., et al. 2019. PARG regulates the proliferation and differentiation of DCs and T cells via PARP/NFκB in tumour metastases of colon carcinoma. Oncol. Rep. 41: 2657-2666.
7. Jiang, B., et al. 2019. Identifying UBA2 as a proliferation and cell cycle regulator in lung cancer A549 cells. J. Cell. Biochem. 120: 12752-12761.
8. Liu, B., et al. 2019. Tanshinone IIA inhibits proliferation and induces apoptosis of human nasopharyngeal carcinoma cells via p53-cyclin B1/CDC2. Oncol. Lett. 18: 3317-3322.
9. Shan, H., et al. 2019. 3-deoxy-2β,16-dihydroxynagilactone E, a natural compound from *Podocarpus nagi,* preferentially inhibits JAK2/STAT3 signaling by allosterically interacting with the regulatory domain of JAK2 and induces apoptosis of cancer cells. Acta Pharmacol. Sin. 40: 1578-1586.

CONJUGATES

See **PARP-1 (F-2): sc-8007** for PARP-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.