SANTA CRUZ BIOTECHNOLOGY, INC.

PARP-1 (N-20): sc-1561

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 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PARP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1561 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PARP-1 (N-20) is recommended for detection of full-length PARP-1 and the N-terminal cleavage product of PARP-1 of mouse, rat, human and *Xenopus laevis* 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PARP-1 (N-20) is also recommended for detection of full-length PARP-1 and the N-terminal cleavage product of PARP-1 in additional species, including bovine and porcine.

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.

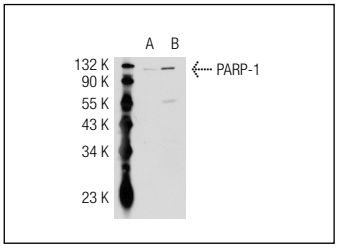
Molecular Weight of PARP-1 C-terminal cleavage product: 89 kDa.

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

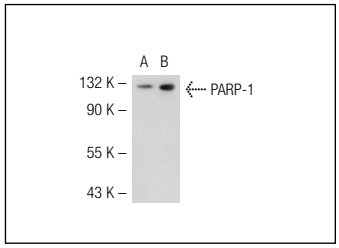
STORAGE

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

DATA



PARP-1 (N-20): sc-1561. Western blot analysis of PARP-1 expression in non-transfected: sc-117752 (**A**) and human PARP-1 transfected: sc-114869 (**B**) 293T whole cell lysates.



PARP-1 (N-20): sc-1561. Western blot analysis of PARP-1 expression in non-transfected: sc-117752 (**A**) and mouse PARP-1 transfected: sc-122382 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kamitani, T., et al. 1997. Activation induced aggregation and processing of the human FAS antigen. Detection with cytoplasmic domain specific antibodies. J. Biol. Chem. 272: 22307-22314.
2. Galuppo, M., et al. 2010. Role of PPAR-δ in the development of zymosan-induced multiple organ failure: an experiment mice study. J. Inflamm. 7: 12.
3. Impellizzeri, D., et al. 2011. Effect of NADPH-oxidase inhibitors in the experimental model of zymosan-induced shock in mice. Free Radic. Res. 45: 820-834.
4. Ohanna, M., et al. 2011. Senescent cells develop a PARP-1 and nuclear factor-κB-associated secretome (PNAS). Genes Dev. 25: 1245-1261.
5. Shiota, M., et al. 2011. Y-box binding protein-1 promotes castration-resistant prostate cancer growth via androgen receptor expression. Endocr. Relat. Cancer 18: 505-517.
6. Steininger, A., et al. 2011. Genomic loss of the putative tumor suppressor gene E2A in human lymphoma. J. Exp. Med. 208: 1585-1593.
7. Pizem, J., et al. 2011. Expression of Gli1 and PARP1 in medulloblastoma: an immunohistochemical study of 65 cases. J. Neurooncol. 103: 459-467.
8. Ahmad, A., et al. 2012. Protective effect of apocynin, a NADPH-oxidase inhibitor, against contrast-induced nephropathy in the diabetic rats: a comparison with n-acetylcysteine. Eur. J. Pharmacol. 674: 397-406.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **PARP-1 (F-2): sc-8007** or **PARP-1 (B-10): sc-74470**, our highly recommended monoclonal alternatives to PARP-1 (N-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PARP-1 (F-2): sc-8007**.