SANTA CRUZ BIOTECHNOLOGY, INC.

PARP-1 (H-300): sc-25780

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 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of PARP-1 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.

APPLICATIONS

PARP-1 (H-300) 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)], 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 (H-300) is also recommended for detection of PARP-1 in additional species, including 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.

Positive Controls: Jurkat whole cell lysate: sc-2204.

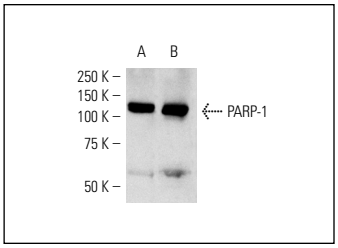
STORAGE

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

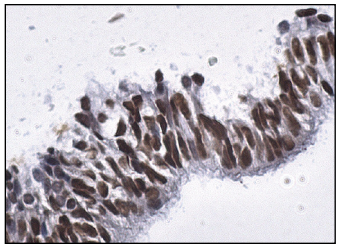
RESEARCH USE

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

DATA



PARP-1 (H-300): sc-25780. Western blot analysis of PARP-1 expression in Jurkat (**A**) and HeLa + etoposide (**B**) whole cell lysates.



PARP-1 (H-300): sc-25780. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear staining of cells in seminiferous ducts.

SELECT PRODUCT CITATIONS

1. Saavalainen, K., et al. 2007. Integration of the activation of the human hyaluronan synthase 2 gene promoter by common cofactors of the transcription factors retinoic acid receptor and nuclear factor κB. J. Biol. Chem. 282: 11530-11539.
2. Kar, B., et al. 2011. Quantitative nucleolar proteomics reveals nuclear reorganization during stress-induced senescence in mouse fibroblast. BMC Cell Biol. 12: 33.
3. Fang, E.F., et al. 2012. *Momordica charantia* lectin, a type II ribosome inactivating protein, exhibits antitumor activity toward human nasopharyngeal carcinoma cells *in vitro* and *in vivo*. Cancer Prev. Res. 5: 109-121.
4. Chakraborty, G., et al. 2012. Semaphorin 3A suppresses tumor growth and metastasis in mice melanoma model. PLoS ONE 7: e33633.
5. Fang, E.F., et al. 2012. Trichosanthin inhibits breast cancer cell proliferation in both cell lines and nude mice by promotion of apoptosis. PLoS ONE 7: e41592.
6. Fang, E.F., et al. 2012. The MAP30 protein from bitter gourd *(Momordica charantia)* seeds promotes apoptosis in liver cancer cells *in vitro* and *in vivo*. Cancer Lett. 324: 66-74.
7. Fang, E.F., et al. 2012. *In vitro* and *in vivo* anticarcinogenic effects of RNase MC2, a ribonuclease isolated from dietary bitter gourd, toward human liver cancer cells. Int. J. Biochem. Cell Biol. 44: 1351-1360.
8. Fang, E.F., et al. 2012. RNase MC2: a new *Momordica charantia* ribonuclease that induces apoptosis in breast cancer cells associated with activation of MAPKs and induction of caspase pathways. Apoptosis 17: 377-387.