SANTA CRUZ BIOTECHNOLOGY, INC.

# PARP-16 (A-25): sc-133885

## 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) chains on the protein. The presence of these chains alters the function of the target protein and promotes cell survival. PARP proteins are implicated in a variety of diseases, including cancer, neurodegenerative and inflammatory disorders. PARP-16 is a 322 amino acid poly(ADP-ribose) polymerase protein localized to the membrane. Expressed as three isoforms produced by alternative splicing, PARP-16 contains one PARP catalytic domain.

## REFERENCES


1. Hans, M.A., Müller, M., Meyer-Ficca, M., Bürkle, A. and Küpper, J.H. 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. Amé, J.C., Spenlehauer, C. and de Murcia, G. 2004. The PARP superfamily. Bioessays 26: 882-893.
3. Aguiar, R.C., Takeyama, K., He, C., Kreinbrink, K. and Shipp, M.A. 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., Chou, H.T. and Lee, S.C. 2006. CDK-dependent activation of poly(ADP-ribose) polymerase member 10 (PARP-10). J. Biol. Chem. 281: 15201-15207.
5. Goenka, S., Cho, S.H. and Boothby, M. 2007. Collaborator of Stat6 (CoaSt6)-associated poly(ADP-ribose) polymerase activity modulates Stat6-dependent gene transcription. J. Biol. Chem. 282: 18732-18739.
6. Liu, X., Luo, X., Shi, Y., Zhu, G.D., Penning, T., Giranda, V.L. and Luo, Y. 2008. Poly(ADP-ribose) polymerase activity regulates apoptosis in HeLa cells after alkylating DNA damage. Cancer Biol. Ther. 7: 934-941.
7. Elser, M., Borsig, L., Hassa, P.O., Erener, S., Messner, S., Valovka, T., Keller, S., Gassmann, M. and Hottiger, M.O. 2008. Poly(ADP-ribose) polymerase 1 promotes tumor cell survival by coactivating hypoxia-inducible factor-1-dependent gene expression. Mol. Cancer Res. 6: 282-290.
8. Hassa, P.O. and Hottiger, M.O. 2008. The diverse biological roles of mammalian PARPS, a small but powerful family of poly-ADP-ribose polymerases. Front. Biosci. 13: 3046-3082.


## 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.

## CHROMOSOMAL LOCATION

Genetic locus: PARP16 (human) mapping to 15q22.31.

## SOURCE

PARP-16 (A-25) is an affinity purified rabbit polyclonal antibody raised against synthetic PARP-16 peptide of human origin.

## PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## APPLICATIONS

PARP-16 (A-25) is recommended for detection of PARP-16 of 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PARP-16 siRNA (h): sc-76060, PARP-16 shRNA Plasmid (h): sc-76060-SH and PARP-16 shRNA (h) Lentiviral Particles: sc-76060-V.

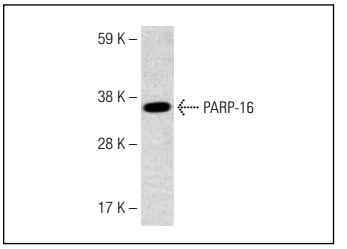
Molecular Weight of PARP-16: 36 kDa.

Positive Controls: Human fetal kidney tissue extract.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA




PARP-16 (A-25): sc-133885. Western blot analysis of PARP-16 expression in human fetal kidney tissue extract.

## PROTOCOLS

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