SANTA CRUZ BIOTECHNOLOGY, INC.

PARP-4 (A-18): sc-49474

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The Power to Question

BACKGROUND

PARP-1 is a nuclear protein that is specifically cleaved by caspase-3 and caspase-6, but not by caspase-1, into a signature apoptotic fragment. PARP-2 and PARP-3 interact with PARP-1. PARP-4, also designated vault poly(ADP-ribose) polymerase (VPARP) and ADP-ribotransferase-like 1 (ADPRTL1), associates with the major vault protein (MVP) and telomerase-associated protein 1 (TEP1) to form vaults, barrel-shaped cytoplasmic ribonucleoprotein particles. PARP-4 localizes mainly to the cytoplasm but is also found in the nucleus. The PARP-4 protein is expressed widely, with highest levels observed in the kidney, and is also detected in skeletal muscle, heart, leukocytes, placenta, lung, liver, spleen and pancreas. PARP-4 contains a PARP (ADPRT)-like catalytic domain, a C-terminal MVP-interacting domain, a domain with two sequences similar to inter-α-trypsin inhibitor, and an N-terminal BRCA1 C-terminus (BRCT) domain, which may be involved in protein-protein interactions.

REFERENCES

1. Kickhoefer, V.A., et al. 1999. The 193 kDa vault protein, VPARP, is a novel poly(ADP-ribose) polymerase. J. Cell Biol. 146: 917-928.
2. Still, I.H., et al. 2000. Identification of a novel gene (ADPRTL1) encoding a potential Poly(ADP-ribosyl)transferase protein. Genomics 62: 533-536.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607519. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Raval-Fernandes, S., et al. 2005. Increased susceptibility of vault poly(ADP-ribose) polymerase-deficient mice to carcinogen-induced tumorigenesis. Cancer Res. 65: 8846-8852.
5. Stewart, P.L., et al. 2005. Sea urchin vault structure, composition, and differential localization during development. BMC Dev. Biol. 5: 3.
6. Zheng, C.L., et al. 2005. Characterization of MVP and VPARP assembly into vault ribonucleoprotein complexes. Biochem. Biophys. Res. Commun. 326: 100-107.

CHROMOSOMAL LOCATION

Genetic locus: PARP4 (human) mapping to 13q12.12; Parp4 (mouse) mapping to 14 C3.

SOURCE

PARP-4 (A-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PARP-4 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-49474 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PARP-4 (A-18) is recommended for detection of PARP-4 (Poly [ADP-ribose] polymerase 4) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PARP-4 (A-18) is also recommended for detection of PARP-4 (Poly [ADP-ribose] polymerase 4) in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PARP-4 siRNA (h): sc-61299, PARP-4 siRNA (m): sc-61300, PARP-4 shRNA Plasmid (h): sc-61299-SH, PARP-4 shRNA Plasmid (m): sc-61300-SH, PARP-4 shRNA (h) Lentiviral Particles: sc-61299-V and PARP-4 shRNA (m) Lentiviral Particles: sc-61300-V.

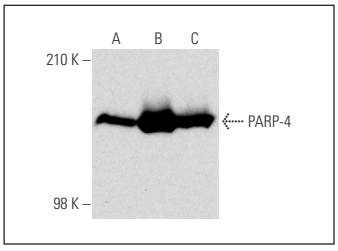
Molecular Weight of PARP-4: 193 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224 or Hep G2 cell lysate: sc-2227 or HeLa+UV irradiated cell lysate: sc-2221.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PARP-4 (A-18): sc-49474. Western blot analysis of PARP-4 expression in HeLa (**A**) and UV treated HeLa (**B**) whole cell lysates and UV treated HeLa nuclear extract (**C**).

RESEARCH USE

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

PROTOCOLS

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