SANTA CRUZ BIOTECHNOLOGY, INC.

PARP-1 (D-1): sc-365315

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 (D-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-27 at the N-terminus of PARP of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-365315 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-365315 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PARP-1 (D-1) is recommended for detection of full-length PARP-1 and the N-terminal cleavage product of PARP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

PARP-1 (D-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of full-length PARP-1: 116 kDa.

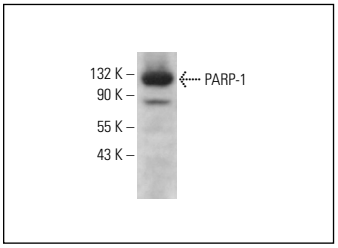
Molecular Weight of PARP-1 C-/N-terminal cleavage product: 89/24 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, U-698-M whole cell lysate: sc-364799 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.

DATA



PARP-1 (D-1): sc-365315. Western blot analysis of PARP-1 expression in RAW 264.7 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zhao, W., et al. 2012. Nuclear to cytoplasmic translocation of heterogeneous nuclear ribonucleoprotein U enhances TLR-induced proinflammatory cytokine production by stabilizing mRNAs in macrophages. J. Immunol. 188: 3179-3187.
2. Ben-Sahra, I., et al. 2013. Sestrin2 integrates Akt and mTOR signaling to protect cells against energetic stress-induced death. Cell Death Differ. 20: 611-619.
3. Wang, B.Y., et al. 2014. Triptolide induces apoptosis of gastric cancer cells via inhibiting the overexpression of MDM2. Med. Oncol. 31: 270.
4. Sun, Q., et al. 2015. Host responses and regulation by NFκB signaling in the liver and liver epithelial cells infected with a novel tick-borne bunyavirus. Sci. Rep. 5: 11816.
5. Piya, S., et al. 2016. Atg7 suppression enhances chemotherapeutic agent sensitivity and overcomes stroma-mediated chemoresistance in acute myeloid leukemia. Blood 128: 1260-1269.
6. Subastri, A., et al. 2018. Troxerutin with copper generates oxidative stress in cancer cells: its possible chemotherapeutic mechanism against hepatocellular carcinoma. J. Cell. Physiol. 233: 1775-1790.
7. Saxena, S., et al. 2019. ATR signaling uncouples the role of Rad51 paralogs in homologous recombination and replication stress response. Cell Rep. 29: 551-559.e4.

RESEARCH USE

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

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.