SANTA CRUZ BIOTECHNOLOGY, INC.

PARG (H-1): sc-398563

BACKGROUND

The synthesis and rapid turnover of ADP-ribose polymers is an immediate cellular response to DNA damage. Poly(ADP-ribose) is a reversible covalent-modifier to chromosomal proteins and is synthesized by poly (ADP-ribose) polymerase (PARP-1) and other related enzymes. Poly(ADP-ribose) glycohydrolase (PARG) is the enzyme responsible for polymer turnover. Under normal growth conditions, PARG localizes to the cytoplasm. PARG is an enzymatically active protein that is cleaved to multiple fragments. PARG is cleaved during etoposide-, staurosporine-, and FAS-induced apoptosis in human cells by caspases, and generates two C-terminal fragments, which still contain the active site of the enzyme required to hydrolyze poly (ADP-ribose). Under normal growth, PARG is expressed only as a doublet by SDS-PAGE. The gene encoding PARG maps to human chromosome 10q11.23.

CHROMOSOMAL LOCATION

Genetic locus: PARG (human) mapping to 10q11.23; Parg (mouse) mapping to 14 B.

SOURCE

PARG (H-1) is a mouse monoclonal antibody raised against amino acids 677-976 mapping at the C-terminus of PARG of human 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.

PARG (H-1) is available conjugated to agarose (sc-398563 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398563 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398563 PE), fluorescein (sc-398563 FITC), Alexa Fluor® 488 (sc-398563 AF488), Alexa Fluor® 546 (sc-398563 AF546), Alexa Fluor® 594 (sc-398563 AF594) or Alexa Fluor® 647 (sc-398563 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398563 AF680) or Alexa Fluor® 790 (sc-398563 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PARG (H-1) is recommended for detection of PARG 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 PARG siRNA (h): sc-106355, PARG siRNA (m): sc-152026, PARG shRNA Plasmid (h): sc-106355-SH, PARG shRNA Plasmid (m): sc-152026-SH, PARG shRNA (h) Lentiviral Particles: sc-106355-V and PARG shRNA (m) Lentiviral Particles: sc-152026-V.

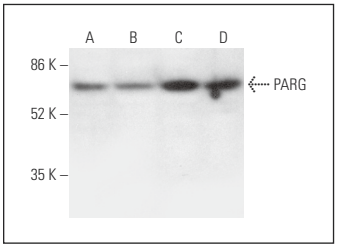
Molecular Weight of PARG isoforms: 110/60 kDa.

Positive Controls: NCI-H292 whole cell lysate: sc-364179, Jurkat whole cell lysate: sc-2204 or SK-MEL-28 cell lysate: sc-2236.

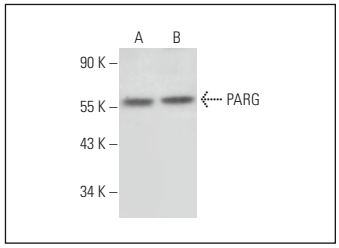
STORAGE

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

DATA



PARG (H-1): sc-398563. Western blot analysis of PARG expression in SK-MEL-28 (**A**), T98G (**B**), NCI-H292 (**C**) and Jurkat (**D**) whole cell lysates.



PARG (H-1): sc-398563. Western blot analysis of PARG expression in M1 (**A**) and C6 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Li, X., et al. 2016. Poly(ADP-ribose) glycohydrolase (PARG) silencing suppresses benzo(a)pyrene induced cell transformation. PLoS ONE 11: e0151172.
2. Ke, Y., et al. 2018. The establishment of the methods for free PAR generation and PAR reader detection. Mol. Cell. Probes 39: 57-60.
3. Singatulina, A.S., et al. 2019. PARP-1 activation directs FUS to DNA damage sites to form PARG-reversible compartments enriched in damaged DNA. Cell Rep. 27: 1809-1821.e5.
4. Lam, A.T., et al. 2021. A bifunctional NAD^+ for profiling poly-ADP-ribosylation-dependent interacting proteins. ACS Chem. Biol. 16: 389-396.
5. Paterniti, I., et al. 2021. Poly (ADP-ribose) polymerase inhibitor, ABT888, improved cisplatin effect in human oral cell carcinoma. Biomedicines 9: 771.
6. Guo, N., et al. 2022. Repeated treatments of Capan-1 cells with PARP1 and Chk1 inhibitors promote drug resistance, migration and invasion. Cancer Biol. Ther. 23: 69-82.
7. Li, L., et al. 2022. Aldehyde dehydrogenase 2 and PARP1 interaction modulates hepatic HDL biogenesis by LXRα-mediated ABCA1 expression. JCI Insight 7: e155869.

RESEARCH USE

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

PROTOCOLS

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