SANTA CRUZ BIOTECHNOLOGY, INC.

PARP-14 (C-1): sc-377150

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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(ADPribose) 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.

CHROMOSOMAL LOCATION

Genetic locus: PARP14 (human) mapping to 3q21.1; Parp14 (mouse) mapping to 16 B3.

SOURCE

PARP-14 (C-1) is a mouse monoclonal antibody raised against amino acids 291-358 mapping within an internal region of PARP-14 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-377150 X, 200 µg/0.1 ml.

PARP-14 (C-1) is available conjugated to agarose (sc-377150 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377150 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377150 PE), fluorescein (sc-377150 FITC), Alexa Fluor® 488 (sc-377150 AF488), Alexa Fluor® 546 (sc-377150 AF546), Alexa Fluor® 594 (sc-377150 AF594) or Alexa Fluor® 647 (sc-377150 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377150 AF680) or Alexa Fluor® 790 (sc-377150 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

PARP-14 (C-1) is recommended for detection of PARP-14 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-14 siRNA (h): sc-76056, PARP-14 siRNA (m): sc-76057, PARP-14 shRNA Plasmid (h): sc-76056-SH, PARP-14 shRNA Plasmid (m): sc-76057-SH, PARP-14 shRNA (h) Lentiviral Particles: sc-76056-V and PARP-14 shRNA (m) Lentiviral Particles: sc-76057-V.

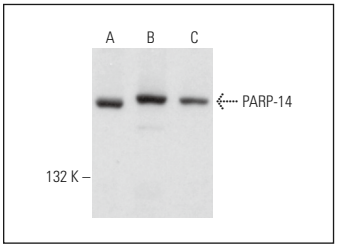
PARP-14 (C-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Positive Controls: U-251-MG whole cell lysate: sc-364176, RAW 264.7 whole cell lysate: sc-2211 or MOLT-4 cell lysate: sc-2233.

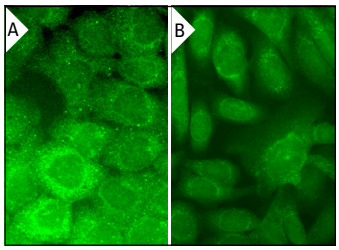
STORAGE

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

DATA



PARP-14 (C-1): sc-377150. Western blot analysis of PARP-14 expression in U-251-MG (**A**), MOLT-4 (**B**) and RAW 264.7 (**C**) whole cell lysates.



PARP-14 (C-1): sc-377150. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoplasmic and nuclear localization (**A**). PARP-14 (C-1) Alexa Fluor® 488: sc-377150 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic and nuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**B**).

SELECT PRODUCT CITATIONS

1. Nicolae, C.M., et al. 2015. A novel role for the mono-ADP-ribosyltransferase PARP-14/ARTD8 in promoting homologous recombination and protecting against replication stress. Nucleic Acids Res. 43: 3143-3153.
2. Becker, A.C., et al. 2018. Influenza A virus induces autophagosomal targeting of ribosomal proteins. Mol. Cell. Proteomics 17: 1909-1921.
3. Higashi, H., et al. 2019. A study into the ADP-ribosylome of IFN-γ-stimulated THP-1 human macrophage-like cells identifies ARTD8/PARP-14 and ARTD9/PARP-9 ADP-ribosylation. J. Proteome Res. 18: 1607-1622.
4. Dhoonmoon, A., et al. 2020. Genome-wide CRISPR synthetic lethality screen identifies a role for the ADP-ribosyltransferase PARP-14 in DNA replication dynamics controlled by ATR. Nucleic Acids Res. 48: 7252-7264.
5. Kamata, T., et al. 2021. Post-transcriptional regulation of PARP-7 protein stability is controlled by androgen signaling. Cells 10: 363.
6. Kuraoka, S., et al. 2022. A novel spectral annotation strategy streamlines reporting of mono-ADP-ribosylated peptides derived from mouse liver and spleen in response to IFN-γ. Mol. Cell. Proteomics 21: 100153.
7. Xu, A.H., et al. 2023. Poly(ADP-ribose) polymerase family member 14 promotes functional recovery after spinal cord injury through regulating microglia M1/M2 polarization via STAT1/6 pathway. Neural Regen. Res. 18: 1809-1817.
8. Wong, C.W., et al. 2023. PARP14 inhibition restores PD-1 immune checkpoint inhibitor response following IFNγ-driven acquired resistance in preclinical cancer models. Nat. Commun. 14: 5983.
9. Vedantham, M., et al. 2024. Body-wide genetic deficiency of poly(ADP-ribose) polymerase 14 sensitizes mice to colitis. FASEB J. 38: e23775.

RESEARCH USE

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