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-ribose)ylation contributes to the efficient maintenance of genome integrity.

Chromosomal Location
Genetic locus: PARP1 (human) mapping to 1q42.12; Parp1 (mouse) mapping to 11 H4.

Source
PARP-1 (E-8) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of PARP-1 of human origin.

Product
Each vial contains 200 µg IgGκ, 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-74469 X, 200 µg/0.1 ml.

Applications
PARP-1 (E-8) is recommended for detection 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), immunohistochemistry (including paraffin-embedded sections) (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 (E-8) 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-terminal cleavage product: 89 kDa.
Molecular Weight of PARP-1 N-terminal cleavage product: 24 kDa.
Positive Controls: Jurkat nuclear extract: sc-2132, HeLa nuclear extract: sc-2120 or K-562 nuclear extract: sc-2130.

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

Select Product Citations

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

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.