SANTA CRUZ BIOTECHNOLOGY, INC.

TopBP1 (H-300): sc-32923

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The Power to Question

BACKGROUND

Human DNA topoisomerase II binding protein 1 (TopBP1) contains eight BRCT motifs that are found in proteins regulating the DNA damage response, transcription and replication. In addition, TopBP1 shares sequence similarity with the fission yeast Rad4/Cut5 protein and the budding yeast DPB11 protein, both of which are required for DNA damage control and/or replication checkpoint control. Phosphorylation of TopBP1 occurs in response to DNA double-strand breaks and replication blocks. TopBP1 forms nuclear foci and localizes to the sites of DNA damage or the arrested replication forks. Downregulation of TopBP1 leads to reduced cell survival, probably due to increased apoptosis. TopBP1 functions as a transcriptional co-activator by enhancing the human papillomavirus (HPV) transcription/replication factor E2. In addition, the HECT-domain ubiquitin ligase, hHYD, cooperates with TopBP1 in DNA damage response. TopBP1 specifically interacts with the C-terminal region of topoisomerase II β, which suggests a supportive role for TopBP1 in the catalytic reactions of topoisomerase II β through transient breakages of DNA strands. The gene encoding TopBP1 maps to chromosome 3q22.1.

CHROMOSOMAL LOCATION

Genetic locus: TOPBP1 (human) mapping to 3q22.1; Topbp1 (mouse) mapping to 9 F1.

SOURCE

TopBP1 (H-300) is a rabbit polyclonal antibody raised against amino acids 1136-1435 mapping at the C-terminus of TopBP1 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.

STORAGE

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

APPLICATIONS

TopBP1 (H-300) is recommended for detection of TopBP1 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).

TopBP1 (H-300) is also recommended for detection of TopBP1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TopBP1 siRNA (h): sc-41068, TopBP1 siRNA (m): sc-44393, TopBP1 shRNA Plasmid (h): sc-41068-SH, TopBP1 shRNA Plasmid (m): sc-44393-SH, TopBP1 shRNA (h) Lentiviral Particles: sc-41068-V and TopBP1 shRNA (m) Lentiviral Particles: sc-44393-V.

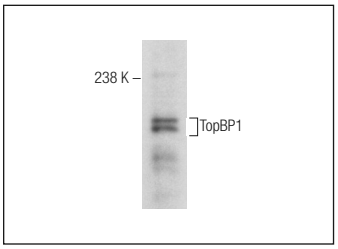
Molecular Weight of TopBP1: 179 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, HeLa + UV cell lysate: sc-2221 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TopBP1 (H-300): sc-32923. Western blot analysis of TopBP1 expression in Jurkat nuclear extract.

SELECT PRODUCT CITATIONS

1. Sansam, C.L., et al. 2010. A vertebrate gene, ticrr, is an essential checkpoint and replication regulator. Genes Dev. 24: 183-194.

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.