

# TOPORS (Y-30): sc-101182

## BACKGROUND

TOPORS (topoisomerase I binding, arginine/serine-rich), also known as LUN, RP31, P53BP3 or TP53BPL, is a 1,045 amino acid protein that contains one RING-type zinc finger and localizes to discrete nuclear foci. Expressed in a variety of tissues with highest expression in testis, TOPORS functions as a ubiquitin E3 ligase that, via its RING domain, can ubiquitinate proteins such as p53, thereby targeting them for proteasomal degradation. TOPORS expression can be induced by genotoxic agents (compounds that damage DNA), such as camptothecin and cisplatin, suggesting an important role for TOPORS in DNA damage repair pathways. In addition, TOPORS levels are decreased in lung and colon cancers, implicating TOPORS as a possible tumor suppressor. Defects in the gene encoding TOPORS are the cause of retinitis pigmentosa type 31 (RP31), a degenerative disease characterized by a loss of peripheral and, eventually, central vision.

## REFERENCES

- Zhou, R., et al. 1999. Identification of a novel gene encoding a p53 associated protein. *Gene* 235: 93-101.
- Haluska, P., et al. 1999. Interaction between human topoisomerase I and a novel RING finger/arginine serine protein. *Nucleic Acids Res.* 27: 2538-2544.
- Chu, D., et al. 2001. Cloning and characterization of LUN, a novel RING finger protein that is highly expressed in lung and specifically binds to a palindromic sequence. *J. Biol. Chem.* 276: 14004-14013.
- Rasheed, Z.A., et al. 2002. The topoisomerase I binding RING protein, TOPORS, is associated with promyelocytic leukemia nuclear bodies. *Exp. Cell Res.* 277: 152-160.
- Weger, S., et al. 2003. The DNA topoisomerase I binding protein TOPORS as a novel cellular target for SUMO-1 modification: characterization of domains necessary for subcellular localization and sumylation. *Exp. Cell Res.* 290: 13-27.
- Rajendra, R., et al. 2004. TOPORS functions as an E3 ubiquitin ligase with specific E2 enzymes and ubiquitinates p53. *J. Biol. Chem.* 279: 36440-36444.

## CHROMOSOMAL LOCATION

Genetic locus: TOPORS (human) mapping to 9p21.1.

## SOURCE

TOPORS (Y-30) is a mouse monoclonal antibody raised against recombinant TOPORS of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain 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

TOPORS (Y-30) is recommended for detection of TOPORS of 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), 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 TOPORS siRNA (h): sc-92519, TOPORS shRNA Plasmid (h): sc-92519-SH and TOPORS shRNA (h) Lentiviral Particles: sc-92519-V.

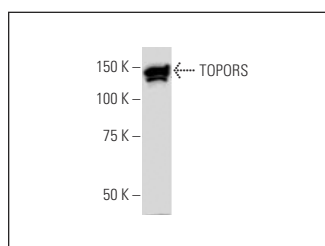
Molecular Weight of TOPORS: 119 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

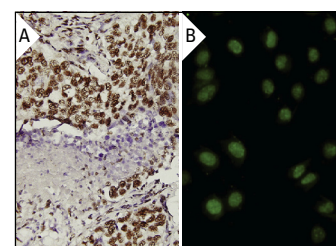
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



TOPORS (Y-30): sc-101182. Western blot analysis of TOPORS expression in HeLa nuclear extract.



TOPORS (Y-30): sc-101182. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung adenocarcinoma tissue (A) and immunofluorescence staining of paraformaldehyde-fixed HeLa cells (B) showing nuclear localization.

## SELECT PRODUCT CITATIONS

- Renner, F., et al. 2010. SUMOylation-dependent localization of IKKε in PML nuclear bodies is essential for protection against DNA-damage-triggered cell death. *Mol. Cell* 37: 503-515.

## RESEARCH USE

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