

# SNM1B (P-14): sc-135523



The Power to Question

## BACKGROUND

DNA interstrand cross-links (ICLs) pose lethal threats to DNA as they inhibit segregation, replication and transcription. The mechanism of ICL repair is complex but is at least partly conserved between *Saccharomyces cerevisiae* and mammals. SNM1B (SNM1 homolog B), also known as DCLRE1B (DNA cross-link repair 1B (PSO2 homolog, *S. cerevisiae*)) or APOLLO, is a 532 amino acid nuclear protein that localizes to discrete foci and is likely required for DNA interstrand cross-link repair. SNM1B assists in the maintenance of telomeres during S-phase and interacts with TRF2 (telomeric repeat binding factor 2), a protein involved in telomeric organization and protection, in the early DNA-damage response. A member of the DNA repair metallo- $\beta$ -lactamase (DRMBL) family, SNM1B becomes phosphorylated following translation, either by ATM or ATR, and is encoded by a gene located on human chromosome 1.

## REFERENCES

1. Dronkert, M.L., et al. 2000. Disruption of mouse SNM1 causes increased sensitivity to the DNA interstrand cross-linking agent mitomycin C. *Mol. Cell. Biol.* 20: 4553-4561.
2. Demuth, I., et al. 2004. Human SNM1B is required for normal cellular response to both DNA interstrand crosslink-inducing agents and ionizing radiation. *Oncogene* 23: 8611-8618.
3. Freibaum, B.D. and Counter, C.M. 2006. hSNM1B is a novel telomere-associated protein. *J. Biol. Chem.* 281: 15033-15036.
4. Demuth, I., et al. 2008. Endogenous hSNM1B/Apollo interacts with TRF2 and stimulates ATM in response to ionizing radiation. *DNA Repair* 7: 1192-1201.
5. Freibaum, B.D. and Counter, C.M. 2008. The protein hSNM1B is stabilized when bound to the telomere-binding protein TRF2. *J. Biol. Chem.* 283: 23671-23676.
6. Chen, Y., et al. 2008. A shared docking motif in TRF1 and TRF2 used for differential recruitment of telomeric proteins. *Science* 319: 1092-1096.
7. Liu, L., et al. 2009. SNM1B/Apollo interacts with astrin and is required for the prophase cell cycle checkpoint. *Cell Cycle* 8: 628-638.
8. Anders, M., et al. 2009. Evidence for hSNM1B/Apollo functioning in the HSP70 mediated DNA damage response. *Cell Cycle* 8: 1725-1732.

## CHROMOSOMAL LOCATION

Genetic locus: DCLRE1B (human) mapping to 1p13.2.

## SOURCE

SNM1B (P-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of SNM1B of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-135523 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SNM1B (P-14) is recommended for detection of SNM1B of human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with SNM1A or Snm1.

Suitable for use as control antibody for SNM1B siRNA (h): sc-88509, SNM1B shRNA Plasmid (h): sc-88509-SH and SNM1B shRNA (h) Lentiviral Particles: sc-88509-V.

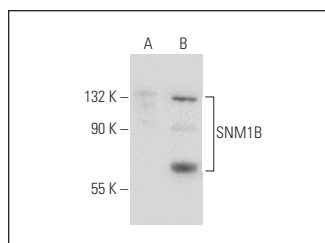
Molecular Weight of SNM1B: 60 kDa.

Positive Controls: SNM1B (h): 293T Lysate: sc-113949, HOS cell lysate: sc-2275 or human cervix extract: sc-363756.

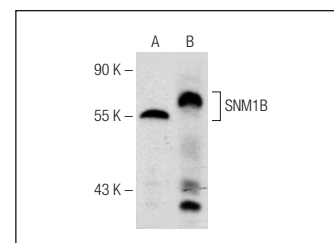
## RECOMMENDED SECONDARY REAGENTS

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



SNM1B (P-14): sc-135523. Western blot analysis of SNM1B expression in non-transfected: sc-117752 (A) and human SNM1B transfected: sc-113949 (B) 293T whole cell lysates.



SNM1B (P-14): sc-135523. Western blot analysis of SNM1B expression in human cervix tissue extract (A) and HOS whole cell lysate (B).

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.