SANTA CRUZ BIOTECHNOLOGY, INC.

# SNM1B (B-7): sc-514300

## 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-β-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 (B-7) is a mouse monoclonal antibody raised against amino acids 1-96 mapping at the N-terminus of SNM1B of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

SNM1B (B-7) is recommended for detection of SNM1B of 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 SNM1B siRNA (h): sc-88509, SNM1B shRNA Plasmid (h): sc-88509-SH and SNM1B shRNA (h) Lentiviral Particles: sc-88509-V.

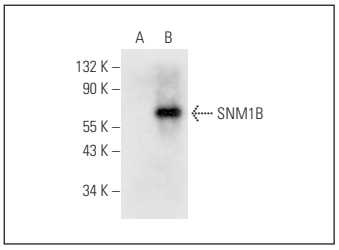
Molecular Weight of SNM1B: 60 kDa.

Positive Controls: SNM1B (h): 293T Lysate: sc-113949.

## 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.

## DATA




SNM1B (B-7): sc-514300. Western blot analysis of SNM1B expression in non-transfected: sc-117752 (**A**) and human SNM1B transfected: sc-113949 (**B**) 293T whole cell lysates.

## 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 for detailed protocols and support products.