

SNM1B (h): 293T Lysate: sc-113949

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., et al. 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.

PRODUCT

SNM1B (h): 293T Lysate represents a lysate of human SNM1B transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

SNM1B (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SNM1B antibodies. Recommended use: 10-20 μ l per lane.

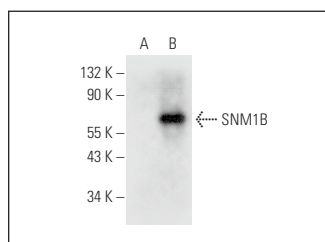
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

SNM1B (B-7): sc-514300 is recommended as a positive control antibody for Western Blot analysis of enhanced human SNM1B expression in SNM1B transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

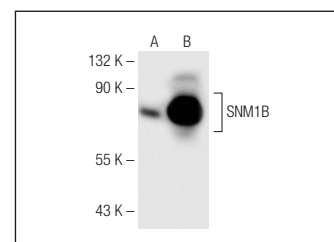
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

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.



SNM1B (F-8): sc-374351. Western blot analysis of SNM1B expression in non-transfected: sc-117752 (A) and human SNM1B transfected: sc-113949 (B) 293T whole cell lysates.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.