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SANTA CRUZ BIOTECHNOLOGY, INC.

BOP1 (h): 293T Lysate: sc-171667

BACKGROUND

Predominantly localized to the nucleolus, BOP1 (block of proliferation 1 protein) is a 746 amino acid highly conserved non-ribosomal protein that is involved in ribosome biogenesis. Truncation of the amino terminus of BOP1 leads to cell growth arrest in the G_1 phase and specific inhibition of 28S and 5.8S rRNA synthesis, as well as a deficit in the cytosolic 60S ribosomal subunit. This suggests that BOP1 is involved in the formation of mature rRNAs and in the biogenesis of the 60S ribosomal subunit. BOP1 physically interacts with pescadillo (a protein involved in cell proliferation) and enables efficient incorporation of pescadillo into the nucleolar preribosomal complexes, thereby affecting rRNA maturation and the cell cycle. The BOP1-pescadillo complex is also necessary for biogenesis of 60S ribosomal subunits. Deregulation of BOP1 may lead to colorectal tumorigenesis.

REFERENCES

1. Strezoska, Z., et al. 2000. BOP1 is a mouse WD40 repeat nucleolar protein involved in 28S and 5. 8S RRNA processing and 60S ribosome biogenesis. Mol. Cell. Biol. 20: 5516-5528.
2. Pestov, D.G., et al. 2001. Evidence of p53-dependent cross-talk between ribosome biogenesis and the cell cycle: effects of nucleolar protein BOP1 on G_1/S transition. Mol. Cell. Biol. 21: 4246-4255.
3. Pestov, D.G., et al. 2001. ERB1, the yeast homolog of mammalian Bop1, is an essential gene required for maturation of the 25S and 5.8S ribosomal RNAs. Nucleic Acids Res. 29: 3621-3630.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610596. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Lapik, Y.R., et al. 2004. Physical and functional interaction between Pes1 and BOP1 in mammalian ribosome biogenesis. Mol. Cell 15: 17-29.
6. Hölzel, M., et al. 2005. Mammalian WDR12 is a novel member of the Pes1-BOP1 complex and is required for ribosome biogenesis and cell proliferation. J. Cell Biol. 170: 367-378.
7. Killian, A., et al. 2006. Contribution of the BOP1 gene, located on 8q24, to colorectal tumorigenesis. Genes Chromosomes Cancer 45: 874-881.

CHROMOSOMAL LOCATION

Genetic locus: BOP1 (human) mapping to 8q24.3.

PRODUCT

BOP1 (h): 293T Lysate represents a lysate of human BOP1 transfected 293T cells and is provided as 100 µg protein in 200 µl 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.

PROTOCOLS

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

APPLICATIONS

BOP1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive BOP1 antibodies. Recommended use: 10-20 µl per lane.

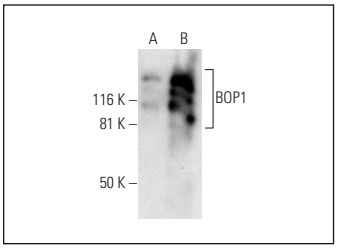
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

BOP1 (E-1): sc-390672 is recommended as a positive control antibody for Western Blot analysis of enhanced human BOP1 expression in BOP1 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-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.

DATA



BOP1 (E-1): sc-390672. Western blot analysis of BOP1 expression in non-transfected: sc-117752 (**A**) and human BOP1 transfected: sc-171667 (**B**) 293T whole cell lysates.

RESEARCH USE

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