SANTA CRUZ BIOTECHNOLOGY, INC.

BLM (C-18): sc-7790

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Bloom's syndrome is an autosomal recessive disorder characterized by pre- and post-natal growth deficiencies, sun sensitivity, immunodeficiency and a predisposition to various cancers. The gene responsible for Bloom's syndrome, BLM, encodes a protein homologous to the RecQ helicase of *E. coli* and is mutated in most Bloom's syndrome patients. One characteristic of Bloom's syndrome is an increased frequency of sister chromatid exchange (SCE). BLM has been shown to unwind G_4 DNA, and a failure of this function is thought to be responsible for the increased rate of SCE. BLM is known to be translocated to the nucleus, where its ATPase activity is stimulated by both single- and double-stranded DNA. Mutations in the yeast SGS1, a homolog of BLM, are known to cause mitotic hyperrecombination similiar to that observed in Bloom's cells.

CHROMOSOMAL LOCATIONS

Genetic locus: BLM (human) mapping to 15q26.1.

SOURCE

BLM (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of BLM of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7790 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

BLM (C-18) is recommended for detection of BLM 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BLM (C-18) is also recommended for detection of BLM in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for BLM siRNA (h): sc-29808, BLM shRNA Plasmid (h): sc-29808-SH and BLM shRNA (h) Lentiviral Particles: sc-29808-V.

Molecular Weight of BLM: 180 kDa.

Positive Controls: K-562 nuclear extract: sc-2130.

STORAGE

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

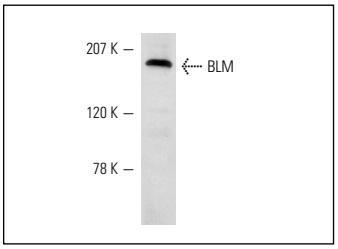
PROTOCOLS

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

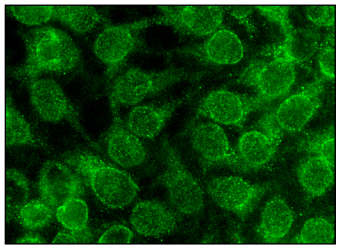
RESEARCH USE

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

DATA



BLM (C-18): sc-7790. Western blot analysis of BLM expression in K-562 nuclear extract.



BLM (C-18): sc-7790. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

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4. Temime-Smaali, N., et al. 2008. Topoisomerase IIIα is required for normal proliferation and telomere stability in alternative lengthening of telomeres. EMBO J. 27: 1513-1524.
5. Vinciguerra, P., et al. 2010. Cytokinesis failure occurs in Fanconi anemia pathway-deficient murine and human bone marrow hematopoietic cells. J. Clin. Invest. 120: 3834-3842.
6. Li, M., et al. 2011. The SET2-RPB1 interaction domain of human RECQ5 is important for transcription-associated genome stability. Mol. Cell. Biol. 31: 2090-2099.
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8. Ke, Y., et al. 2011. PICH and BLM limit histone association with anaphase centromeric DNA threads and promote their resolution. EMBO J. 30: 3309-3321.
9. Rouzeau, S., et al. 2012. Bloom's syndrome and PICH helicases cooperate with topoisomerase IIα in centromere disjunction before anaphase. PLoS ONE 7: e33905.