

BLM (K-20): sc-7791

BACKGROUND

Bloom's syndrome is an autosomal recessive disorder characterized by pre- and postnatal 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 G4 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 similar to that observed in Bloom's cells.

REFERENCES

1. Ellis, N.A., et al. 1995. The Bloom's syndrome gene product is homologous to RecQ helicases. *Cell* 83: 655-666.
2. Bamezai, R. 1996. Bloom syndrome: is the gene mapped to the point? *Indian J. Exp. Biol.* 34: 298-301.
3. Watt, P.M., et al. 1996. SGS1, a homologue of the Bloom's and Werner's syndrome genes, is required for maintenance of genome stability in *Saccharomyces*. *Genetics* 144: 935-945.
4. Kaneko, H., et al. 1997. BLM (the causative gene of Bloom syndrome) protein translocation into the nucleus by a nuclear localization signal. *Biochem. Biophys. Res. Commun.* 240: 348-353.
5. Karow, J.K., et al. 1997. The Bloom's syndrome gene product is a 3'-5' DNA helicase. *J. Biol. Chem.* 272: 30611-30614.
6. Sun, H., et al. 1998. The Bloom's syndrome helicase unwinds G4 DNA. *J. Biol. Chem.* 273: 27587-27592.

CHROMOSOMAL LOCATION

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

SOURCE

BLM (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near 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-7791 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

BLM (K-20) 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).

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.

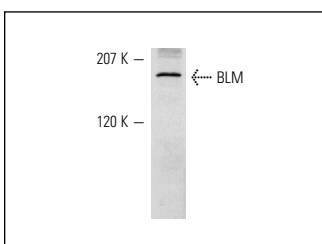
Molecular Weight of BLM: 180 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



BLM (K-20): sc-7791. Western blot analysis of BLM expression in K-562 nuclear extract.

SELECT PRODUCT CITATIONS

1. Davalos, A.R. and Campisi, J. 2003. Bloom syndrome cells undergo p53-dependent apoptosis and delayed assembly of BRCA1 and NBS1 repair complexes at stalled replication forks. *J. Cell Biol.* 162: 1197-1209.
2. Day, R.M., et al. 2008. Genistein protects against biomarkers of delayed lung sequelae in mice surviving high-dose total body irradiation. *J. Radiat. Res.* 49: 361-372.

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Try **BLM (B-4): sc-365753** or **BLM (C-1): sc-376237**, our highly recommended monoclonal alternatives to BLM (K-20).