

## BLM (BFL103): sc-13584

### 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 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 (BFL103) is a mouse monoclonal antibody raised against full length BLM (Bloom's Syndrome Protein) of human origin.

### PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### 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](http://www.scbt.com) for detailed protocols and support products.

### APPLICATIONS

BLM (BFL103) is recommended for detection of BLM of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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.

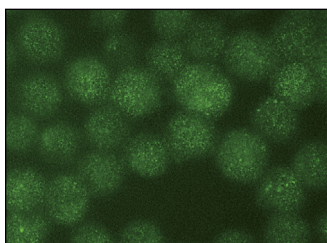
Molecular Weight of BLM: 180 kDa.

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

### RECOMMENDED 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) 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



BLM (BFL103): sc-13584. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear localization.

### SELECT PRODUCT CITATIONS

1. Zhu, J., et al. 2008. Small ubiquitin-related modifier (SUMO) binding determines substrate recognition and paralogue-selective SUMO modification. *J. Biol. Chem.* 283: 29405-29415.
2. Ren, X.R., et al. 2012. Polyclonal HER2-specific antibodies induced by vaccination mediate receptor internalization and degradation in tumor cells. *Breast Cancer Res.* 14: R89.
3. Petsalaki, E., et al. 2014. Chk1 protects against chromatin bridges by constitutively phosphorylating BLM serine 502 to inhibit BLM degradation. *J. Cell Sci.* 127: 3902-3908.

### RESEARCH USE

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