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BLM Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10588

Specification

BLM Antibody - Product Information

Application	**WB, IP**
Primary Accession	P54132
Other Accession	NP_000048.1
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**159000**

BLM Antibody - Additional Information

Gene ID 641

Application & Usage	**Western blotting (1:300 – 1:3000) and Immunoprecipitation. 293T cell lysate can be used as a positive control. However, the optimal concentrations should be determined individually. The antibody recognizes the BLM of human origin. Reactivity to other species has not been tested.**

Other Names
BS-Bloom Syndrome, DNA Helicase, RECQ-Like, Type 2- RECQ2, RECQL2, RECQL3

Target/Specificity
BLM

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µl affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 1% BSA and 0.02% thimerosal.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
BLM Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

BLM Antibody - Protein Information

Name BLM

Synonyms RECQ2, RECQL3

Function
ATP-dependent DNA helicase that unwinds double-stranded (ds)DNA in a 3'-5' direction (PubMed:24816114, PubMed:25901030, PubMed:9388193, PubMed:9765292). Participates in DNA replication and repair (PubMed:12019152, PubMed:21325134, PubMed:23509288, PubMed:34606619). Involved in 5'-end resection of DNA during double- strand break (DSB) repair: unwinds DNA and recruits DNA2 which mediates the cleavage of 5'-ssDNA (PubMed:21325134). Stimulates DNA 4-way junction branch migration and DNA Holliday junction dissolution (PubMed:25901030). Binds single-stranded DNA (ssDNA), forked duplex DNA and Holliday junction DNA (PubMed:20639533, PubMed:24257077, PubMed:25901030). Unwinds G-quadruplex DNA; unwinding occurs in the 3'- 5' direction and requires a 3' single-stranded end of at least 7 nucleotides (PubMed:18426915, PubMed:9765292). Helicase activity is higher on G-quadruplex substrates than on duplex DNA substrates (PubMed:9765292). Telomeres, immunoglobulin heavy chain switch regions and rDNA are notably G-rich; formation of G-quadruplex DNA would block DNA replication and transcription (PubMed:18426915, PubMed:9765292). Negatively regulates sister chromatid exchange (SCE) (PubMed:25901030). Recruited by the KHDC3L-OOEP scaffold to DNA replication forks where it is retained by TRIM25 ubiquitination, it thereby promotes the restart of stalled replication forks (By similarity).

Cellular Location
Nucleus. Note=Together with SPIDR, is redistributed in discrete nuclear DNA damage-induced foci following hydroxyurea (HU) or camptothecin (CPT) treatment. Accumulated at sites of DNA damage in a RMI complex- and SPIDR-dependent manner

BLM Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

BLM Antibody - Images

BLM Antibody - 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 similiar to that observed in Bloom’s cells.