

RMI1 (C-20): sc-79872

BACKGROUND

Bloom's syndrome (BS) is a rare human genetic disorder characterized by dwarfism, immunodeficiency, genomic instability and cancer predisposition. BS is a result of mutation in the BLM gene, which encodes a protein that forms a multienzyme complex with topoisomerase III α , replication protein A and BLAP75 (also designated RecQ-mediated genome instability protein 1 or RMI1). BLM maintains genome integrity and catalyzes Holliday-junction branch migration and the annealing of complementary single-stranded DNA molecules. BLAP75, an OB-fold nucleic acid binding domain, is essential for the stability of the BLM complex *in vivo*. Specifically, BLAP75 enhances the ability of the BLM-Topo III α pair to branch migrate the Holliday junction or dissolve the double Holliday junction structure to yield non-crossover recombinants. BLAP75 colocalizes with BLM in subnuclear foci in response to DNA damage, and its depletion impairs the recruitment of BLM to these foci.

REFERENCES

- Cheok, C.F., et al. 2005. Roles of the Bloom's syndrome helicase in the maintenance of genome stability. *Biochem. Soc. Trans.* 33: 1456-1459.
- Yin, J., et al. 2005. BLAP75, an essential component of Bloom's syndrome protein complexes that maintain genome integrity. *EMBO J.* 24: 1465-1476.
- Raynard, S., et al. 2006. A double Holliday junction dissolvosome comprising BLM, topoisomerase III α , and BLAP75. *J. Biol. Chem.* 281: 13861-13864.
- Wu, L., et al. 2006. BLAP75/RMI1 promotes the BLM-dependent dissolution of homologous recombination intermediates. *Proc. Natl. Acad. Sci. USA* 103: 4068-4073.
- Chan, K.L., et al. 2007. BLM is required for faithful chromosome segregation and its localization defines a class of ultrafine anaphase bridges. *EMBO J.* 26: 3397-3409.
- Bussen, W., et al. 2007. Holliday junction processing activity of the BLM-Topo III α -BLAP75 complex. *J. Biol. Chem.* 282: 31484-31492.
- Singh, T.R., et al. 2008. BLAP18/RMI2, a novel OB-fold-containing protein, is an essential component of the Bloom helicase-double Holliday junction dissolvosome. *Genes Dev.* 22: 2856-2868.
- Raynard, S., et al. 2008. Functional role of BLAP75 in BLM-topoisomerase III α -dependent holliday junction processing. *J. Biol. Chem.* 283: 15701-15708.

CHROMOSOMAL LOCATION

Genetic locus: RMI1 (human) mapping to 9q21.32; Rmi1 (mouse) mapping to 13 B1.

SOURCE

RMI1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RMI1 of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-79872 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-79872 X, 200 μ g/0.1 ml.

APPLICATIONS

RMI1 (C-20) is recommended for detection of RMI1 of mouse, rat and 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).

RMI1 (C-20) is also recommended for detection of RMI1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RMI1 siRNA (h): sc-72651, RMI1 siRNA (m): sc-72652, RMI1 shRNA Plasmid (h): sc-72651-SH, RMI1 shRNA Plasmid (m): sc-72652-SH, RMI1 shRNA (h) Lentiviral Particles: sc-72651-V and BLRMI1AP75 shRNA (m) Lentiviral Particles: sc-72652-V.

RMI1 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RMI1: 70 kDa.

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) 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.

RESEARCH USE

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

PROTOCOLS

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