


Product datasheet

Anti-SMC5 antibody ab18038

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Overview

Product name	Anti-SMC5 antibody
Description	Rabbit polyclonal to SMC5
Host species	Rabbit
Tested applications	Suitable for: IP, WB
Species reactivity	Reacts with: Human Predicted to work with: Rat, Horse, Guinea pig, Cow, Dog, Pig, Chimpanzee, Ferret, Rhesus monkey, Gorilla, Orangutan 

Immunogen Synthetic peptide within Human SMC5 aa 1050 to the C-terminus. The exact immunogen sequence used to generate this antibody is proprietary information. If additional detail on the immunogen is needed to determine the suitability of the antibody for your needs, please [contact](#) our Scientific Support team to discuss your requirements.
Database link: [Q8Y18](#)

 [Run BLAST with](#)

 [Run BLAST with](#)

General notes The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.

If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7 Preservative: 0.1% Sodium azide Constituents: 0.021% PBS, 1.764% Sodium citrate, 1.815% Tris
Purity	Immunogen affinity purified
Purification notes	Antibody was purified using an epitope specific to SMC5 immobilized on solid support.
Clonality	Polyclonal

Isotype

IgG

Applications

The Abpromise guarantee

Our [Abpromise guarantee](#) covers the use of ab18038 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		Use at 2-10 µg/mg of lysate.
WB		1/5000 - 1/25000. Detects a band of approximately 145 kDa (predicted molecular weight: 129 kDa).

Target

Function

Core component of the SMC5-SMC6 complex, a complex involved in repair of DNA double-strand breaks by homologous recombination. The complex may promote sister chromatid homologous recombination by recruiting the SMC1-SMC3 cohesin complex to double-strand breaks. The complex is required for telomere maintenance via recombination in ALT (alternative lengthening of telomeres) cell lines and mediates sumoylation of shelterin complex (telosome) components which is proposed to lead to shelterin complex disassembly in ALT-associated PML bodies (APBs). Required for recruitment of telomeres to PML nuclear bodies. Required for sister chromatid cohesion during prometaphase and mitotic progression; the function seems to be independent of SMC6. SMC5-SMC6 complex may prevent transcription of episomal DNA, such as circular viral DNA genome (PubMed:26983541).

Tissue specificity

Widely expressed (PubMed:11408570). Strongly expressed in testis (PubMed:11408570).

Sequence similarities

Belongs to the SMC family. SMC5 subfamily.

Domain

The flexible hinge domain, which separates the large intramolecular coiled coil regions, allows the heterotypic interaction with the corresponding domain of SMC6, forming a V-shaped heterodimer.

Post-translational modifications

Sumoylated.

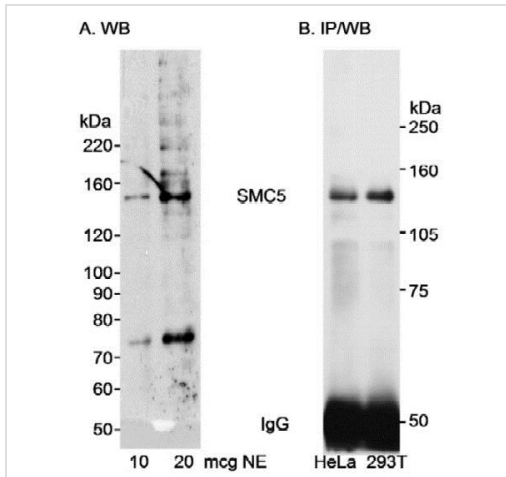
Ubiquitinated.

(Microbial infection) SMC5-SMC6 complex is degraded by the activity of Hepatitis B X protein.

Cellular localization

Nucleus. Chromosome. Nucleus, PML body. Chromosome, telomere. Associates with chromatin (PubMed:25931565). Colocalizes with SMC6 on the X-Y chromosome pair within the sex vesicle during late pachytene/diplotene (By similarity). Localizes to PML nuclear bodies in ALT cell lines (PubMed:17589526). Accumulates with RAD18 and the SLF1-SLF2 complex at replication-coupled DNA interstrand repair and DNA double-strand breaks (DSBs) sites on chromatin in a ubiquitin-dependent manner (PubMed:25931565).

Images



Western blot - Anti-SMC5 antibody (ab18038)

Ab18038 staining Human SMC5 at a concentration of 0.1 µg/ml by Western Blot, and 5 µg/0.5 mg lysate by Immunoprecipitation.

Samples:

- A) Nuclear extract (10 and 20 µg) from HeLa cells.
- B) Whole cell lysate (500 µg) from HeLa and 293T cells.

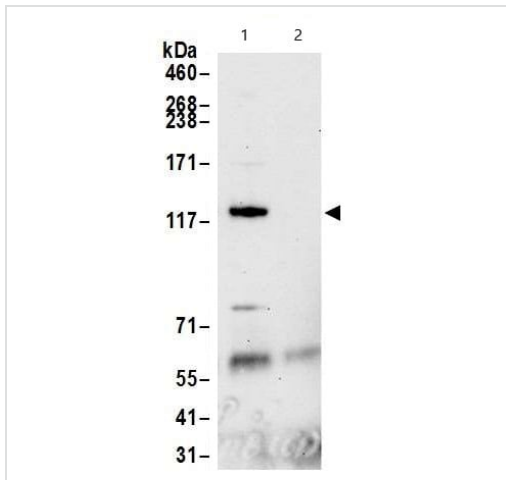
Detection: Chemiluminescence with exposure times of less than 2 minutes.

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Immunoprecipitation - Anti-SMC5 antibody (ab18038)

Immunoprecipitation analysis of whole cell lysate (1.0 mg per IP reaction; 20% of IP loaded) from HEK293T cells prepared using NETN lysis buffer.

Lane 1: ab18038 used for IP at 6 µg per reaction

Lane 2: Control IgG

For blotting immunoprecipitated SMC5, ab18038 was used at 0.1 µg/ml. *Detection:* Chemiluminescence with an exposure time of 75 seconds.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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