


Product datasheet

Anti-SMC3 antibody ab9263

★★★★★ [7 Abreviews](#) [70 References](#) [4 Images](#)

Overview

Product name	Anti-SMC3 antibody
Description	Rabbit polyclonal to SMC3
Host species	Rabbit
Tested applications	Suitable for: IP, WB, IHC-P
Species reactivity	Reacts with: Mouse, Human Predicted to work with: Rat, Rabbit, Horse, Chicken, Guinea pig, Cow, Dog, Turkey, Pig, Chimpanzee, Rhesus monkey, Gorilla, Orangutan, Platypus 
Immunogen	Synthetic peptide corresponding to Human SMC3 conjugated to keyhole limpet haemocyanin. Which represents a portion within the last 100 amino acids GenBank PID 4885399.
Positive control	WB: HEK293T, HeLa, Jurkat, LNCaP, U2OS, A-549, TCMK-1, and NIH/3T3 whole cell lysate; IHC-P: Human breast carcinoma and mouse renal cell carcinoma; IP: Lysate from HEK293T cells.
General notes	<p>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.</p> <p>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</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7 Preservative: 0.09% Sodium azide Constituents: 0.021% PBS, 1.764% Sodium citrate, 1.815% Tris
Purity	Immunogen affinity purified
Purification notes	Antibodies were affinity purified using the peptide immobilized on solid support. Antibody concentration was determined by extinction coefficient: absorbance at 280 nm of 1.4 equals 1.0 mg of IgG.

Clonality	Polyclonal
Isotype	IgG

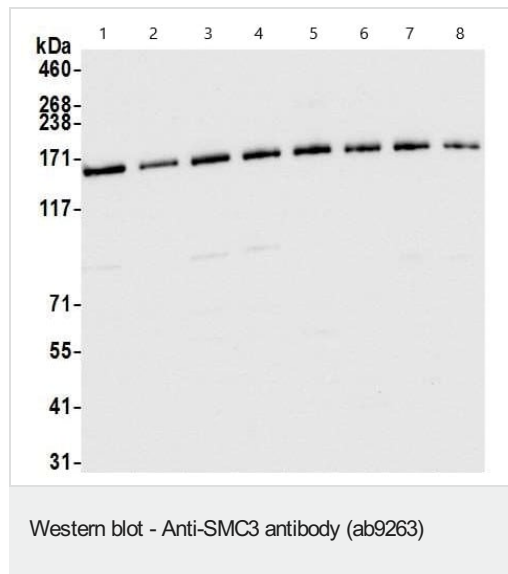
Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab9263 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	★★★★★ (1)	Use at 2-10 µg/mg of lysate.
WB	★★★★★ (3)	1/10000 - 1/25000. Detects a band of approximately 140 kDa (predicted molecular weight: 141.5 kDa).
IHC-P		1/1000 - 1/5000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Target

Function	Central component of cohesin, a complex required for chromosome cohesion during the cell cycle. The cohesin complex may form a large proteinaceous ring within which sister chromatids can be trapped. At anaphase, the complex is cleaved and dissociates from chromatin, allowing sister chromatids to segregate. Cohesion is coupled to DNA replication and is involved in DNA repair. The cohesin complex plays also an important role in spindle pole assembly during mitosis and in chromosomes movement.
Involvement in disease	Defects in SMC3 are the cause of Cornelia de Lange syndrome type 3 (CDLS3) [MIM:610759]. CDLS is a dominantly inherited multisystem developmental disorder characterized by growth and cognitive retardation, abnormalities of the upper limbs, gastroesophageal dysfunction, cardiac, ophthalmologic and genitourinary anomalies, hirsutism, and characteristic facial features. CDSL3 is a mild form with absence of major structural anomalies typically associated with CDLS. The phenotype in some instances approaches that of apparently non-syndromic mental retardation.
Sequence similarities	Belongs to the SMC family. SMC3 subfamily.
Domain	The flexible hinge domain, which separates the large intramolecular coiled coil regions, allows the heterotypic interaction with the corresponding domain of SMC1A or SMC1B, forming a V-shaped heterodimer. The two heads of the heterodimer are then connected by different ends of the cleavable RAD21 protein, forming a ring structure.
Post-translational modifications	Phosphorylated upon DNA damage, probably by ATM or ATR. Acetylation at Lys-105 and Lys-106 by ESCO1 is important for genome stability and S phase sister chromatid cohesion. Regulated by DSCC1, it is required for processive DNA synthesis, coupling sister chromatid cohesion establishment during S phase to DNA replication.
Cellular localization	Nucleus. Chromosome. Chromosome > centromere. Associates with chromatin. Before prophase it is scattered along chromosome arms. During prophase, most of cohesin complexes dissociate from chromatin probably because of phosphorylation by PLK, except at centromeres, where cohesin complexes remain. At anaphase, the RAD21 subunit of the cohesin complex is cleaved, leading to the dissociation of the complex from chromosomes, allowing chromosome separation.



All lanes : Anti-SMC3 antibody (ab9263) at 0.04 µg/ml

Lane 1 : HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate

Lane 2 : HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate

Lane 3 : Jurkat (human T cell leukemia cell line from peripheral blood) whole cell lysate

Lane 4 : LNCaP (human prostate cancer cell line) whole cell lysate

Lane 5 : U-2 OS (human bone osteosarcoma epithelial cell line) whole cell lysate

Lane 6 : A549 (human lung carcinoma cell line) whole cell lysate

Lane 7 : TCMK-1 (mouse epithelial cell line from kidney transformed with SV40 viral antigen) whole cell lysate

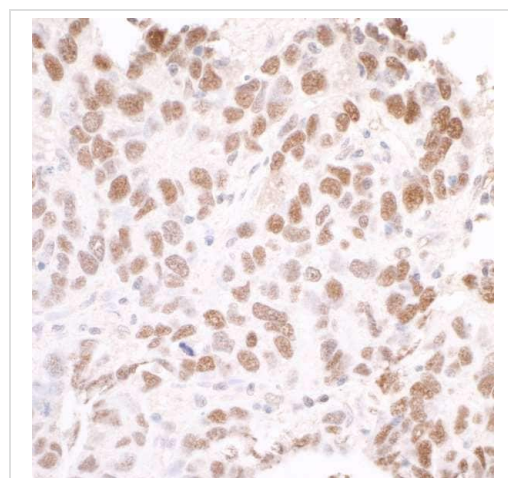
Lane 8 : NIH/3T3 (mouse embryo fibroblast cell line) whole cell lysate

Lysates/proteins at 10 µg per lane.

Predicted band size: 141.5 kDa

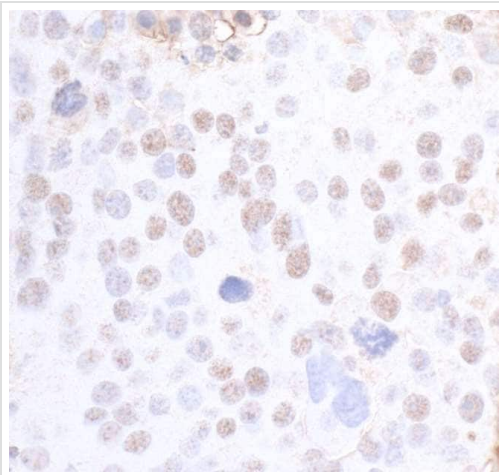
Exposure time: 3 seconds

Lysates prepared using NETN lysis buffer.



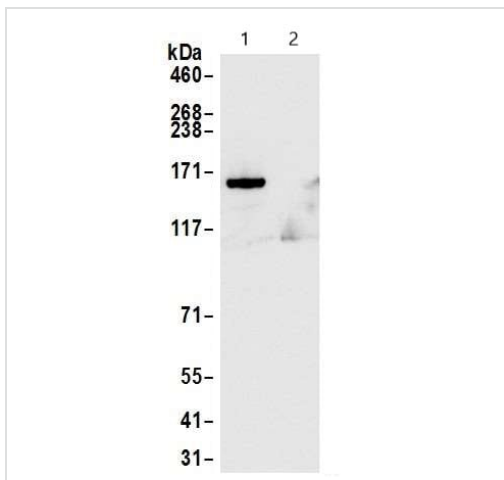
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue labeling SMC3 with ab9263 at 1/5000 dilution. Heat mediated antigen retrieval was performed using citrate buffer pH 6.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMC3 antibody (ab9263)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMC3 antibody (ab9263)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse renal cell carcinoma tissue labeling SMC3 with ab9263 at 1/5000 dilution. Heat mediated antigen retrieval was performed using citrate buffer pH 6.



Immunoprecipitation - Anti-SMC3 antibody (ab9263)

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

Lane 1: ab9263 used for IP at 6 μ g per reaction

Lane 2: Control IgG

For blotting immunoprecipitated SMC3, ab9263 was used at 0.04 μ g/mL.

Detection: Chemiluminescence with an exposure time of 3 seconds.

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