


# Anti-SMC3 antibody - C-terminal ab155587

[1 References](#) [5 Images](#)

## Overview

<b>Product name</b>	Anti-SMC3 antibody - C-terminal
<b>Description</b>	Rabbit polyclonal to SMC3 - C-terminal
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> WB, IHC-P, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human <b>Predicted to work with:</b> Chicken, Xenopus laevis, Zebrafish 
<b>Immunogen</b>	Recombinant fragment, corresponding to a region within C terminal amino acids 909-1199 of Human SMC3 (UniProt Q9UQE7).
<b>Positive control</b>	HepG2, NIH3T3, JC, BCL-1 and PC12 whole cell lysates; HeLa cells; Human Cal27 xenograft tissue.
<b>General notes</b>	<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&amp;As</p>

## Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.00 Preservative: 0.01% Thimerosal (merthiolate) Constituents: 1.21% Tris, 0.75% Glycine, 10% Glycerol (glycerin, glycerine)
<b>Purity</b>	Immunogen affinity purified
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

## Applications

## The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab155587 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
WB		1/500 - 1/3000. Predicted molecular weight: 141 kDa.
IHC-P		1/100 - 1/1000. Perform heat mediated antigen retrieval before commencing with IHC staining protocol using 10mM Citrate buffer (pH6.0) or Tris-EDTA buffer (pH8.0).
ICC/IF		1/100 - 1/1000.

## 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.

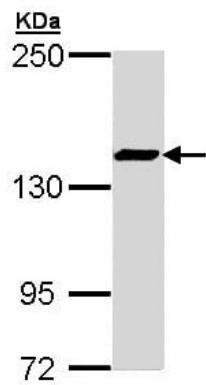
### Post-translational modifications

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.

## Images

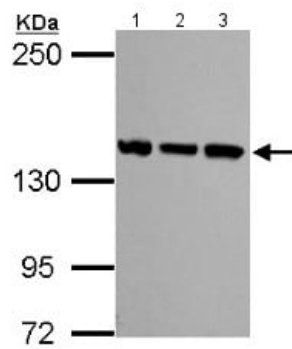


Western blot - Anti-SMC3 antibody - C-terminal (ab155587)

Anti-SMC3 antibody - C-terminal (ab155587) at 1/1000 dilution + HepG2 whole cell lysate at 30 µg

**Predicted band size:** 141 kDa

5% SDS PAGE



Western blot - Anti-SMC3 antibody - C-terminal (ab155587)

**All lanes :** Anti-SMC3 antibody - C-terminal (ab155587) at 1/1000 dilution

**Lane 1 :** NIH3T3 whole cell lysate

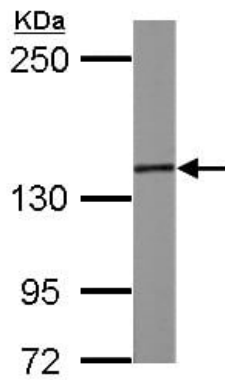
**Lane 2 :** JC whole cell lysate

**Lane 3 :** BCL-1 whole cell lysate

Lysates/proteins at 30 µg per lane.

**Predicted band size:** 141 kDa

5% SDS PAGE

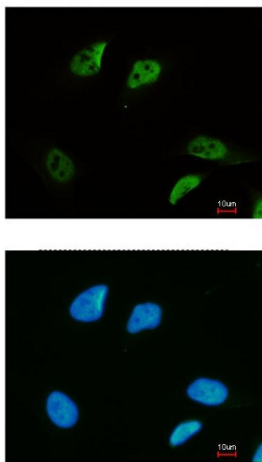


Western blot - Anti-SMC3 antibody - C-terminal (ab155587)

Anti-SMC3 antibody - C-terminal (ab155587) at 1/2000 dilution + PC12 whole cell lysate at 30 µg

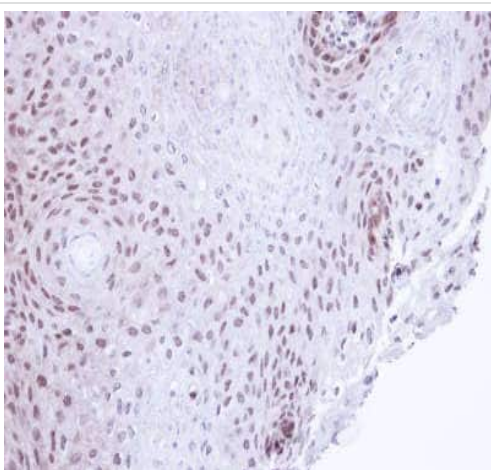
**Predicted band size:** 141 kDa

5% SDS PAGE



Immunocytochemistry/ Immunofluorescence - Anti-SMC3 antibody - C-terminal (ab155587)

Immunofluorescent analysis of paraformaldehyde-fixed HeLa cells labeling SMC3 with ab155587 at 1/200 dilution. Lower panel merged with DNA probe.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMC3 antibody - C-terminal (ab155587)

Immunohistochemical analysis of paraffin-embedded Cal27 (human) xenograft tissue labeling SMC3 with ab155587 at 1/100 dilution.

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

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