


Product datasheet

Anti-SMC3 antibody - N-terminal ab228782

3 Images

Overview

Product name	Anti-SMC3 antibody - N-terminal
Description	Rabbit polyclonal to SMC3 - N-terminal
Host species	Rabbit
Tested applications	Suitable for: WB, IP
Species reactivity	Reacts with: Mouse, Human Predicted to work with: Rat, Chicken, Cow, Xenopus laevis, Zebrafish 
Immunogen	Recombinant fragment within Human SMC3 (N terminal). The exact sequence is proprietary. Database link: Q9UQE7
Positive control	WB: Mouse liver lysate; A431, NCI-H1299 and HeLa whole cell lysates. IP: HeLa whole cell lysate.
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 long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.00 Preservative: 0.01% Thimerosal (merthiolate) Constituents: 1.21% Tris, 0.75% Glycine, 10% Glycerol (glycerin, glycerine)
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab228782 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.
IP		1/100 - 1/500.

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.

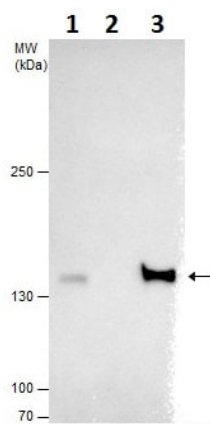
Post-translational modifications

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



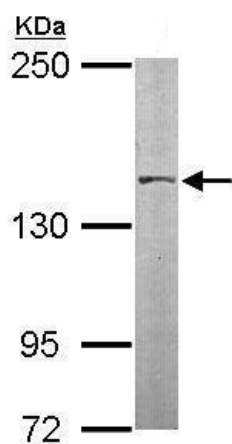
Immunoprecipitation - Anti-SMC3 antibody - N-terminal (ab228782)

SMC3 was immunoprecipitated from HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate with 5 μ g ab228782. Western blot was performed from the immunoprecipitate using ab228782. Anti-rabbit IgG was used as secondary antibody.

Lane 1: HeLa whole cell lysate.

Lane 2: Control IgG IP instead of ab228782 in HeLa whole cell lysate.

Lane 3: ab228782 IP in HeLa whole cell lysate.

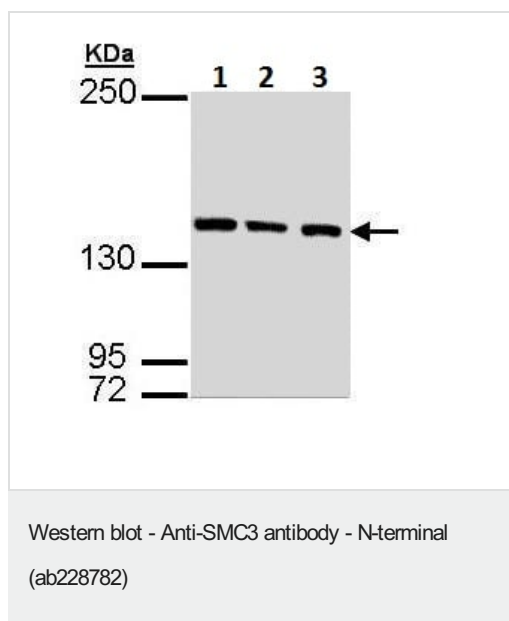


Western blot - Anti-SMC3 antibody - N-terminal (ab228782)

Anti-SMC3 antibody - N-terminal (ab228782) at 1/1000 dilution + Mouse liver lysate at 50 μ g

Predicted band size: 141 kDa

5% SDS-PAGE gel.



All lanes : Anti-SMC3 antibody - N-terminal (ab228782) at 1/1000 dilution

Lane 1 : A431 (human epidermoid carcinoma cell line) whole cell lysate

Lane 2 : NCI-H1299 (human lung carcinoma cell line) whole cell lysate

Lane 3 : HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate

Lysates/proteins at 30 µg per lane.

Predicted band size: 141 kDa

7.5% SDS-PAGE gel.

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