

Product datasheet

Anti-SMC1A (phospho S957) antibody [EPR2857Y] ab75768

Recombinant RabMAb

4 Images

Overview

Product name	Anti-SMC1A (phospho S957) antibody [EPR2857Y]
Description	Rabbit monoclonal [EPR2857Y] to SMC1A (phospho S957)
Host species	Rabbit
Tested applications	Suitable for: WB, IHC-P Unsuitable for: Flow Cyt or IP
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	Hela cell lysate; human breast carcinoma or tonsil tissue.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p> <p>Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	<p>pH: 7.20</p> <p>Preservative: 0.05% Sodium azide</p> <p>Constituents: 0.1% BSA, 40% Glycerol (glycerin, glycerine), 9.85% Tris glycine, 50% Tissue culture supernatant</p>
Purity	Protein A purified

Clonality	Monoclonal
Clone number	EPR2857Y
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab75768 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 - 1/1000. Predicted molecular weight: 143 kDa.
IHC-P		1/100 - 1/250. Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.

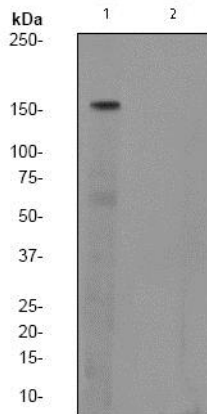
Application notes Is unsuitable for Flow Cyt or IP.

Target

Function	Involved in chromosome cohesion during cell cycle and in DNA repair. Central component of cohesin complex. The cohesin complex is required for the cohesion of sister chromatids after DNA replication. The cohesin complex apparently forms 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. The cohesin complex may also play a role in spindle pole assembly during mitosis. Involved in DNA repair via its interaction with BRCA1 and its related phosphorylation by ATM, or via its phosphorylation by ATR. Works as a downstream effector both in the ATM/NBS1 branch and in the ATR/MSH2 branch of S-phase checkpoint.
Involvement in disease	Defects in SMC1A are the cause of Cornelia de Lange syndrome type 2 (CDLS2) [MIM:300590]; also known as Cornelia de Lange syndrome X-linked. CDLS is a clinically heterogeneous developmental disorder associated with malformations affecting multiple systems. CDLS is characterized by facial dysmorphisms, abnormal hands and feet, growth delay, cognitive retardation and various other malformations including gastroesophageal dysfunction and cardiac, ophthalmologic and genitourinary anomalies.
Sequence similarities	Belongs to the SMC family. SMC1 subfamily.
Domain	The flexible hinge domain, which separates the large intramolecular coiled coil regions, allows the heterotypic interaction with the corresponding domain of SMC3, 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 by ATM upon ionizing radiation in a NBS1-dependent manner. Phosphorylated by ATR upon DNA methylation in a MSH2/MSH6-dependent manner. Phosphorylation of Ser-957 and Ser-966 activates it and is required for S-phase checkpoint activation.
Cellular localization	Nucleus. Chromosome. Chromosome > centromere > kinetochore. 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. In germ cells, cohesin complex dissociates from chromatin at prophase I, and may be replaced by a meiosis-specific cohesin complex. The phosphorylated form on Ser-957 and Ser-966 associates with chromatin during G1/S/G2 phases but not during M phase, suggesting that phosphorylation does not regulate cohesin function. Integral component of the functional centromere-kinetochore complex at the kinetochore region during mitosis.

Images



Western blot - Anti-SMC1A (phospho S957) antibody [EPR2857Y] (ab75768)

All lanes : Anti-SMC1A (phospho S957) antibody [EPR2857Y] (ab75768) at 1/1000 dilution

Lane 1 : Hela cells lysate, untreated

Lane 2 : Hela cells lysate, treated with AP

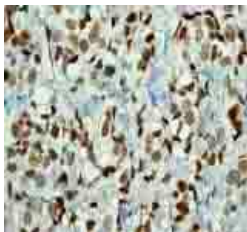
Lysates/proteins at 10 µg per lane.

Secondary

All lanes : HRP-conjugated goat anti-rabbit at 1/2000 dilution

Predicted band size: 143 kDa

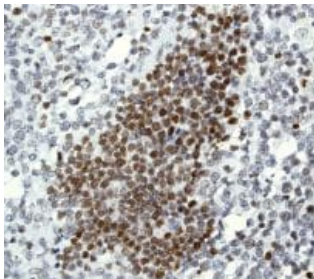
Observed band size: 160 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMC1A (phospho S957) antibody [EPR2857Y] (ab75768)

ab75768 at 1/100 dilution staining SMC1A in human breast carcinoma tissue, using a HRP/AP polymerized secondary antibody.

Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SMC1A (phospho S957) antibody [EPR2857Y] (ab75768)

ab75768 at 1/100 dilution staining SMC1A in human tonsil tissue, using a HRP/AP polymerized secondary antibody.

Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.

Why choose a recombinant antibody?



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Anti-SMC1A (phospho S957) antibody [EPR2857Y]
(ab75768)

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

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