

SMC1A Antibody (N-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13544a**Specification**

SMC1A Antibody (N-term) - Product Information

Application	WB,E
Primary Accession	Q14683
Other Accession	Q9CU62 , Q97593 , NP_006297.2
Reactivity	Human
Predicted	Bovine, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	143233
Antigen Region	307-336

SMC1A Antibody (N-term) - Additional Information**Gene ID** 8243**Other Names**

Structural maintenance of chromosomes protein 1A, SMC protein 1A, SMC-1-alpha, SMC-1A, Sb18, SMC1A, DXS423E, KIAA0178, SB18, SMC1, SMC1L1

Target/Specificity

This SMC1A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 307-336 amino acids from the N-terminal region of human SMC1A.

Dilution

WB~~1:1000

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

SMC1A Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

SMC1A Antibody (N-term) - Protein Information**Name** SMC1A

Synonyms DXS423E, KIAA0178, SB1.8, SMC1, SMC1L1

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.

Cellular Location

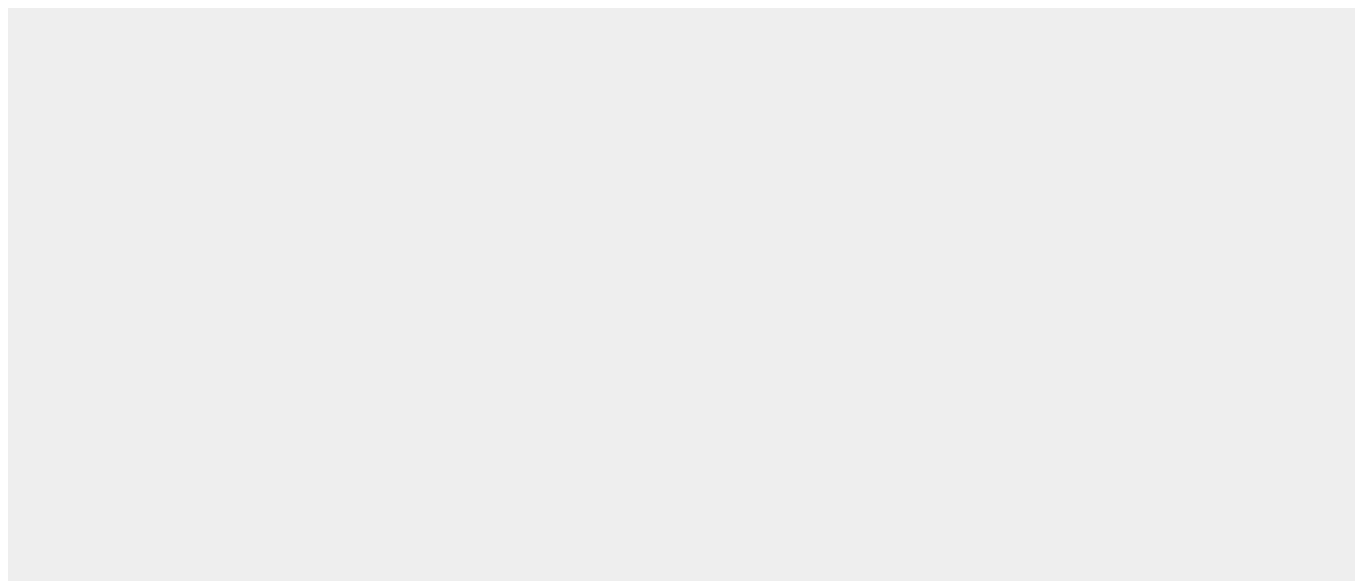
Nucleus. Chromosome. Chromosome, centromere, kinetochore. Note=Associates with chromatin. Before prophase it is scattered along chromosome arms. During prophase, most of cohesin complexes dissociate from chromatin probably because of phosphorylation by PLK, except at centromeres, where cohesin complexes 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

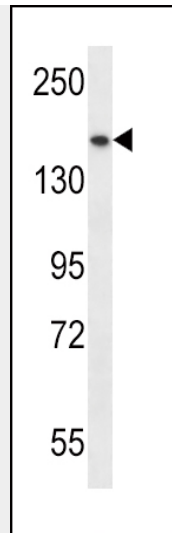
SMC1A Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

SMC1A Antibody (N-term) - Images





SMC1A Antibody (N-term) (Cat. #AP13544a) western blot analysis in CEM cell line lysates (35ug/lane). This demonstrates the SMC1A antibody detected the SMC1A protein (arrow).

SMC1A Antibody (N-term) - Background

Proper cohesion of sister chromatids is a prerequisite for the correct segregation of chromosomes during cell division. The cohesin multiprotein complex is required for sister chromatid cohesion. This complex is composed partly of two structural maintenance of chromosomes (SMC) proteins, SMC3 and either SMC1L2 or the protein encoded by this gene. Most of the cohesin complexes dissociate from the chromosomes before mitosis, although those complexes at the kinetochore remain. Therefore, the encoded protein is thought to be an important part of functional kinetochores. In addition, this protein interacts with BRCA1 and is phosphorylated by ATM, indicating a potential role for this protein in DNA repair. This gene, which belongs to the SMC gene family, is located in an area of the X-chromosome that escapes X inactivation. [provided by RefSeq].

SMC1A Antibody (N-term) - References

Limongelli, G., et al. Am. J. Med. Genet. A 152A (8), 2127-2129 (2010) :
 Homme, C., et al. Oncol. Rep. 24(1):47-56(2010)
 Pie, J., et al. Am. J. Med. Genet. A 152A (4), 924-929 (2010) :
 Wong, R.W. Cell Cycle 9(1):198-200(2010)
 Liu, J., et al. Hum. Mutat. 30(11):1535-1542(2009)