

Anti-SMC1A Antibody (4C5-C8-A11)

Mouse Monoclonal Antibody

Catalog # ABV12068

Product Information

Application	WB, IF
Primary Accession	Q14683
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Clone Names	4C5-C8-A11
Calculated MW	143233

Additional Information

Gene ID	8243
Application & Usage Other Names	WB: MOLT-4, U87 MG and Hela NE cell lysates; IF: HeLa cells Structural maintenance of chromosomes protein 1A, SMC protein 1A, SMC-1-alpha, SMC-1A, Sb1.8, SMC1A
Target/Specificity	SMC1A
Antibody Form	Liquid
Appearance	Colorless liquid
Formulation	In PBS (pH 7.4) containing with 0.02% sodium azide and 50% glycerol
Handling	The antibody solution should be gently mixed before use.
Reconstitution & Storage	-20 °C
Background Descriptions Precautions	Anti-SMC1A Antibody (4C5-C8-A11) is for research use only and not for use in diagnostic or therapeutic procedures.

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.

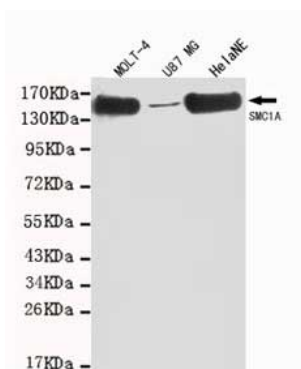
Cellular Location

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

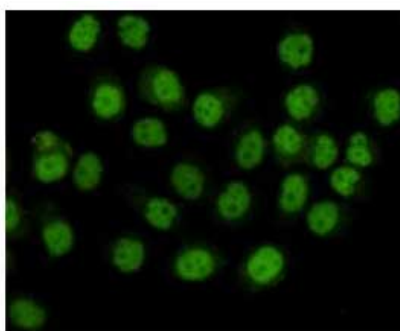
Background

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.

Images



Western blot detection of SMC1A (C-term) in MOLT-4, U87 MG and HeLa NE cell lysates using SMC1A (N-terminus) mouse mAb



Immunocytochemistry staining of HeLa cells fixed with 4% Paraformaldehyde and using antiSMC1A mouse mAb

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.