

SMC1A / SMC1 Antibody (clone 1B9)
Mouse Monoclonal Antibody
Catalog # ALS14069**Specification**

SMC1A / SMC1 Antibody (clone 1B9) - Product Information

Application	IHC
Primary Accession	Q14683
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	143kDa KDa

SMC1A / SMC1 Antibody (clone 1B9) - Additional Information**Gene ID** 8243**Other Names**

Structural maintenance of chromosomes protein 1A, SMC protein 1A, SMC-1-alpha, SMC-1A, Sb1.8, SMC1A, DXS423E, KIAA0178, SB1.8, SMC1, SMC1L1

Target/Specificity

Human SMC1

Reconstitution & Storage

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions

SMC1A / SMC1 Antibody (clone 1B9) is for research use only and not for use in diagnostic or therapeutic procedures.

SMC1A / SMC1 Antibody (clone 1B9) - 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

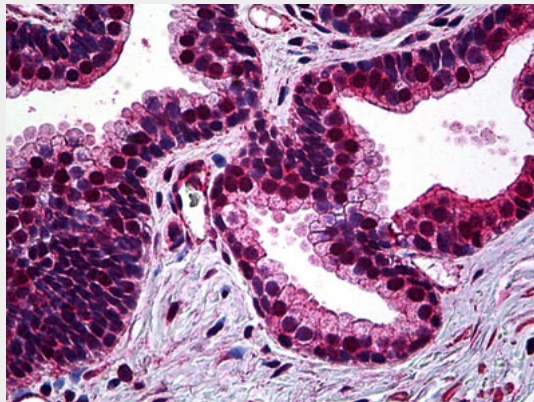
Nucleus. Chromosome. Chromosome, centromere, kinetochore. Note=Associates with chromatin. Before prophase it is scattered along chromosome arms. During prophase, most of cohesin complexes dissociate from chromatin probably because of phosphorylation by PLK, except at centromeres, where cohesin complexes 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 / SMC1 Antibody (clone 1B9) - 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 / SMC1 Antibody (clone 1B9) - Images



Anti-SMC1A / SMC1 antibody IHC of human prostate.

SMC1A / SMC1 Antibody (clone 1B9) - 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. 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.

SMC1A / SMC1 Antibody (clone 1B9) - References

Rocques P.J.,et al.Hum. Mol. Genet. 4:243-249(1995).
Nagase T.,et al.DNA Res. 3:17-24(1996).
Nakajima D.,et al.DNA Res. 9:99-106(2002).
Ross M.T.,et al.Nature 434:325-337(2005).
Yazdi P.T.,et al.Genes Dev. 16:571-582(2002).