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Anti-Phospho-SMC1 (S957) Monoclonal Antibody

Catalog # ABO14375

Specification

Anti-Phospho-SMC1 (S957) Monoclonal Antibody - Product Information

Application	**WB, IHC, IF, ICC**
Primary Accession	Q14683
Host	**Rabbit**
Isotype	**Rabbit IgG**
Reactivity	**Human**
Clonality	**Monoclonal**
Format	**Liquid**

Description
Anti-Phospho-SMC1 (S957) Monoclonal Antibody . Tested in WB, IHC, ICC/IF applications. This antibody reacts with Human.

Anti-Phospho-SMC1 (S957) Monoclonal Antibody - 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

Application Details
WB 1:500-1:2000
IHC 1:50-1:200
ICC/IF 1:50-1:200

Contents
Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen
A synthesized peptide derived from human Phospho-SMC1 (S957) Structural maintenance of chromosomes 1 (SMC1) protein is a chromosomal protein member of the cohesin complex that enables sister chromatid cohesion and plays a role in DNA repair. ATM/NBS1-dependent phosphorylation of SMC1 occurs at Ser957 and Ser966 in response to ionizing radiation (IR) as part of the intra-S-phase DNA damage checkpoint. SMC1 phosphorylation is ATM-independent in cells subjected to other forms of DNA damage, including UV light and hydroxyurea treatment.

Purification
Affinity-chromatography

Storage	**Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

Anti-Phospho-SMC1 (S957) Monoclonal Antibody - 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

Anti-Phospho-SMC1 (S957) Monoclonal Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Phospho-SMC1 (S957) Monoclonal Antibody - Images

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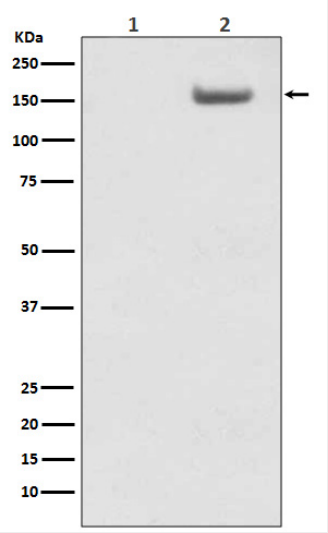
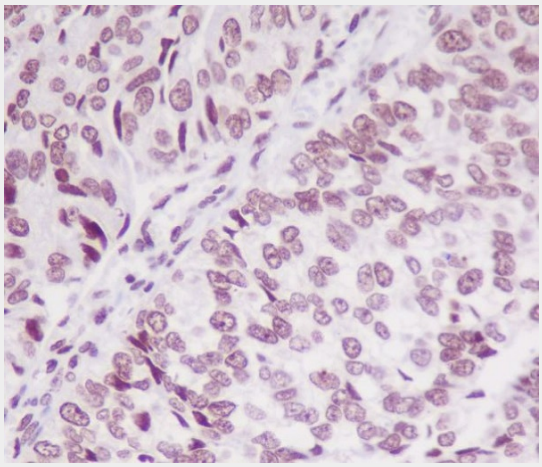


Western blot analysis of Phospho-SMC1 (S957) expression in (1) HeLa cell lysate; (2) Hela cells lysate treated with AP.



Immunohistochemical analysis of paraffin-embedded human bladder cancer, using Phospho-SMC1 (S957) Antibody.