

Rabbit anti-Human, Mouse SMC1 Polyclonal Antibody | anti-SMC1 antibody

Phospho-SMC1 (Ser957) Antibody

CATALOG # AAA329349	HOST Rabbit	REACTIVITY Human, Mouse	APPLICATIONS ELISA, Immunohistochemistry
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PRODUCT SYNONYMS

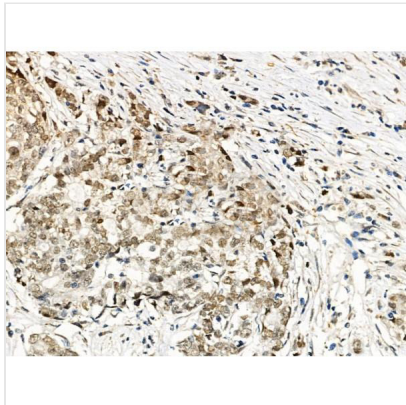
SMC1; Polyclonal Antibody; Phospho-SMC1 (Ser957) Antibody; Chromosome segregation protein SmcB; DXS423E; KIAA0178; MGC138332; Sb1.8; Segregation of mitotic chromosomes 1; SMC protein 1A; SMC-1-alpha; SMC-1A; SMC1 (structural maintenance of chromosomes 1 yeast) like 1; SMC1 structural maintenance of chromosomes 1 like 1; SMC1A; SMC1A_HUMAN; SMC1alpha; SMC1L1; SMCB; Structural maintenance of chromosomes 1A; Structural maintenance of chromosomes protein 1A; anti-SMC1 antibody

PRODUCT SPECIFICATIONS

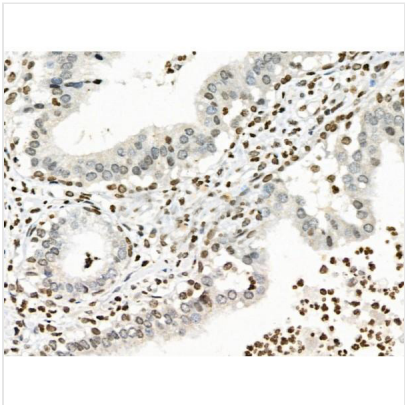
Host	Rabbit
Reactivity	Human, Mouse
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-SMC1 (Ser957) Antibody detects endogenous levels of SMC1 only when phosphorylated at Ser957.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-SMC1 antibody	ELISA (Peptide ELISA), IHC (Immunohistochemistry)
Immunogen	A synthesized peptide derived from human SMC1 around the phosphorylation site of Ser957.
Conjugation	Unconjugated
Fragment	Fab fragment
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.
Subunit Structure	Forms a heterodimer with SMC3 in cohesin complexes. Cohesin complexes are composed of the SMC1 (SMC1A or SMC1B) and SMC3 heterodimer attached via their SMC hinge domain, RAD21 which link them, and one STAG protein (STAG1, STAG2 or STAG3), which interacts with RAD21. In germ cell cohesin complexes, SMC1A is mutually exclusive with SMC1B (By similarity). Interacts with BRCA1. Found in a complex with CDCA5, SMC3 and RAD21, PDS5A/SCC-112 and PDS5B/APRIN. Interacts with NDC80. Interacts with BRAT1. Found in a complex containing POLE and SMC3. Interacts with RPGR, STAG3 and SYCP2 (By similarity). Found in a cohesin complex with SMC3, STAG1 and RAD21. The SMC1A-SMC3 heterodimer interacts with the NIPBL-MAU2 heterodimer.
Similarity	The flexible SMC 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 (By similarity).Belongs to the SMC family. SMC1 subfamily.

Subcellular 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.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

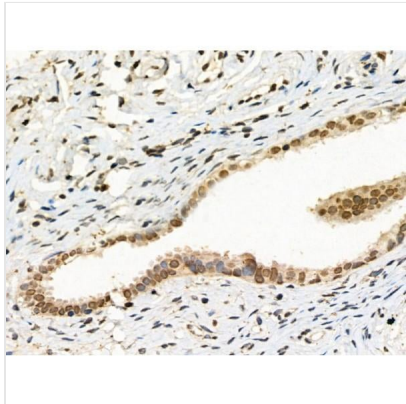
IMAGES



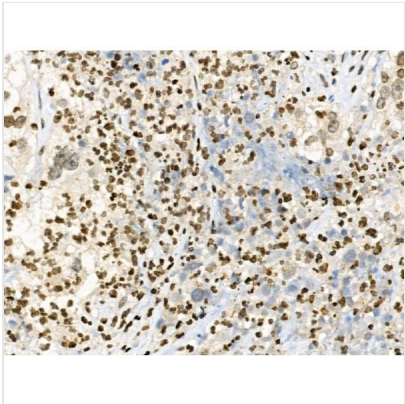
IHC (Immunohistochemistry)
 At 1/100 staining Human gastric cancer and adjacent normal tissues by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



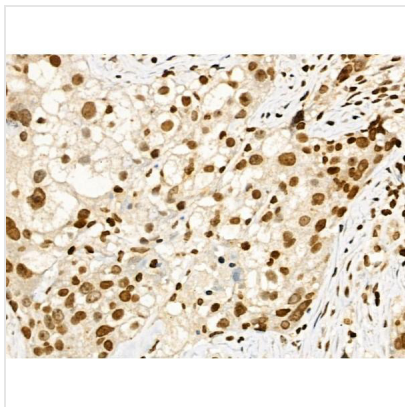
IHC (Immunohistochemistry)
 At 1/100 staining Human colorectal cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)
 At 1/100 staining Human ovarian cancer and adjacent normal tissues by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)
 Staining Human ovarian cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)

At 1/100 staining Human ovarian cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-SMC1 antibody	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.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	30581135
NCBI GeneID	8243
NCBI Accession #	NP_006297.2
NCBI GenBank Nucleotide #	NM_006306.2
UniProt Accession #	Q14683; O14995; Q16351; Q2M228
Molecular Weight	143,233 Da
NCBI Official Full Name	structural maintenance of chromosomes protein 1A
NCBI Official Synonym Full Names	structural maintenance of chromosomes 1A
NCBI Official Symbol	SMC1A
NCBI Official Synonym Symbols	SMC1; SMCB; CDLS2; SB1.8; SMC1L1; DXS423E; SMC1alpha
NCBI Protein Information	structural maintenance of chromosomes protein 1A; SMC-1A; SMC-1-alpha; SMC protein 1A; segregation of mitotic chromosomes 1; SMC1 structural maintenance of chromosomes 1-like 1; SMC1 (structural maintenance of chromosomes 1, yeast)-like 1
UniProt Protein Name	Structural maintenance of chromosomes protein 1A
UniProt Gene Name	SMC1A
UniProt Synonym Gene Names	DXS423E; KIAA0178; SB1.8; SMC1; SMC1L1; SMC protein 1A; SMC-1-alpha; SMC-1A
UniProt Entry Name	SMC1A_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/smc1-antibody-peptide-elisa-immunohistochemistry-elisa/329349>