Product Name: KD-Validated SMC1 Recombinant Rabbit Monoclonal Antibody
Catalog #: KVAb01461
For research use only.

Summary

Description	KO&KD-Validated antibody
Host	Rabbit
Application	WB,FCM,ICC,IHC-P
Reactivity	Human,Mouse,Rat
Conjugation	Unconjugated
Modification	Unmodified
Isotype	Rabbit IgG
Clonality	Rabbit mAb
Form	Liquid
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide.
Purification	Affinity purification

Application

Dilution Ratio	WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000; IHC-P 1:100-1:200
Molecular Weight	Calculated MW: 143.2kDa

Antigen Information

Gene Name	SMC1A
Alternative Names	SMC1A; Structural Maintenance Of Chromosomes 1A; DXS423E; SB1.8; KIAA0178; SMC1L1; Smcb; SMC1 (Structural Maintenance Of Chromosomes 1, Yeast)-Like 1; Structural Maintenance Of Chromosomes Protein 1A; SMC Protein 1A; SMC-1-Alpha; SMC1; SMC1 Structural Maintenance Of Chromosomes 1-Like 1 (Yeast); Epididymis Secretory Sperm Binding Protein; Segregation Of Mitotic Chromosomes 1; SMC1alpha; EIEE85; SMC-1A; CDLS2; DEE85; Sb1.8
Gene ID	8243.0
SwissProt ID	Q14683
Immunogen	A synthesized peptide derived from human SMC1

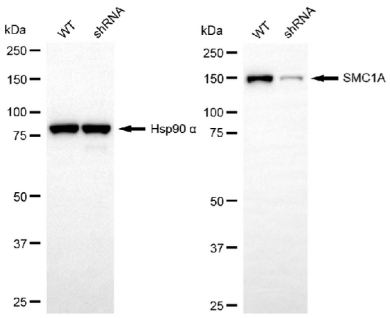
Background

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 SMC1B 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. Mutations in this gene result in Cornelia de Lange syndrome. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Jul 2013]

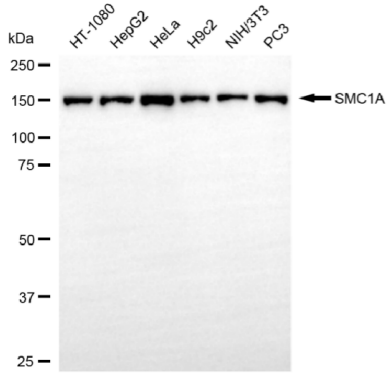
Research Area

Cell Biology,Epigenetics and Nuclear Signaling

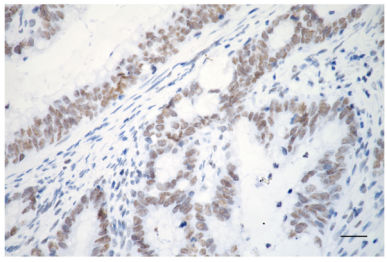
Image Data



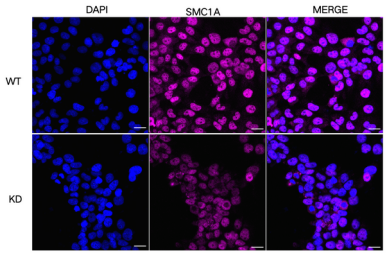
Western blotting analysis using SMC1A antibody (KVAb01461). SMC1A expression in wild-type (WT) and SMC1A shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with SMC1A antibody (KVAb01461, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



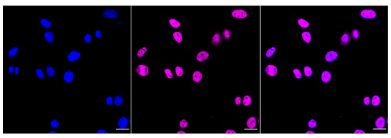
Western blotting analysis using SMC1A antibody (KVAb01461). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with SMC1A antibody (KVAb01461, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



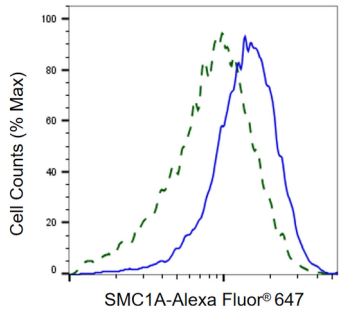
Immunohistochemistry was performed on paraffin-embedded human sigmoid colon carcinoma using SMC1A antibody (KVAb01461, 1:200). Antigen retrieval was done in sodium citrate buffer (pH 6.0). DAB was used for detection, with hematoxylin counterstaining. Images were acquired using a Nikon Ci-L Plus microscope (40× objective). Scale bar: 25 µm.



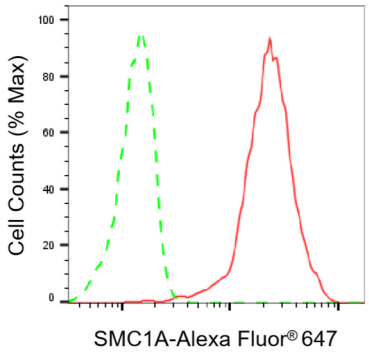
Immunocytochemical staining of HeLa cells using SMC1A antibody (KVAb01461, 1:1,000), Top panel: wild-type (WT); Bottom panal: SMC1A shRNA knockdown (KD). Nuclei were stained blue with DAPI; SMC1A was stained magenta with Alexa Fluor® 647. Scale bar, 20 μm.



Immunocytochemical staining of HepG2 cells with SMC1A antibody (KVAb01461, 1:1,000). Nuclei were stained blue with DAPI; SMC1A was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar, 20 μm.



Validation of SMC1A knockdown using flow cytometry. Wild-type(WT, Blue) and knockdown(KD, Green) HeLa cells were stained with SMC1A antibody (KVAb01461, 1:2,000) and analyzed using BD flow cytometer.



Flow cytometric analysis of SMC1A expression in HepG2 cells using SMC1A antibody (KVAb01461, 1:2,000). Green, isotype control; red, SMC1A.