

Anti-SMC1A Antibody [SN20-27]

ET1611-97



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IF-Tissue, IHC-P
Molecular Wt:	Predicted band size: 143 kDa
Clone number:	SN20-27

Description: Structural maintenance of chromosomes protein 1A (SMC1A) is a protein that in humans is encoded by the SMC1A gene. SMC1A is a subunit of the cohesin complex which mediates sister chromatid cohesion, homologous recombination and DNA looping. In somatic cells, cohesin is formed of SMC1A, SMC3, RAD21 and either SA1 or SA2 whereas in meiosis, cohesin is formed of SMC3, SMC1B, REC8 and SA3. SMC1A is a member of the SMC protein family. Members of this family are key regulators of DNA repair, chromosome condensation and chromosome segregation from bacteria to humans.

Immunogen: Synthetic peptide within Human SMC1A aa 1,184-1,233 / 1,233.

Positive control: HeLa cell lysate, A431 cell lysate, 293T cell lysate, NIH/3T3 cell lysate, 4T1 cell lysate, PC-12 cell lysate, HeLa, NIH/3T3, PC-12, human breast cancer tissue, mouse colon tissue, rat bladder tissue, rat large intestine tissue.

Subcellular location: Nucleus, Chromosome.

Database links: SwissProt: Q14683 Human | Q9CU62 Mouse | Q9Z1M9 Rat

Recommended Dilutions:

WB	1:2,000
IF-Cell	1:100
IF-Tissue	1:100-1:500
IHC-P	1:200-1:1,000

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4°C. Store at +4°C short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20°C long term.

Purity: Protein A affinity purified.

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Orders: 0086-571-88062880

Technical: 0086-571-89986345

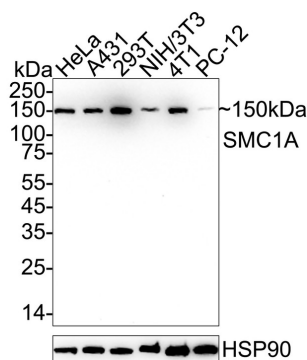
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Applications: WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Cell=Immunofluorescence (Cell) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation

Images

Fig1: Western blot analysis of SMC1A on different lysates with Rabbit anti-SMC1A antibody (ET1611-97) at 1/2,000 dilution.



Lane 1: HeLa cell lysate

Lane 2: A431 cell lysate

Lane 3: 293T cell lysate

Lane 4: NIH/3T3 cell lysate

Lane 5: 4T1 cell lysate

Lane 6: PC-12 cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 143 kDa

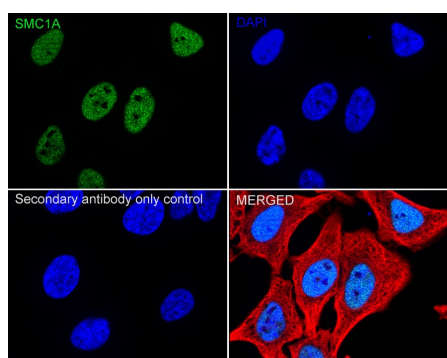
Observed band size: 150 kDa

Exposure time: 3 minutes; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (ET1611-97) at 1/2,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Fig2: Immunocytochemistry analysis of HeLa cells labeling SMC1A with Rabbit anti-SMC1A antibody (ET1611-97) at 1/100 dilution.



Cells were fixed in 100% precooled methanol for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-SMC1A antibody (ET1611-97) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

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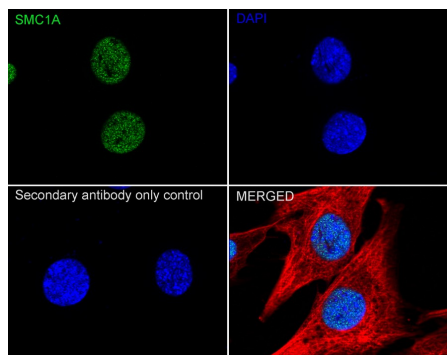
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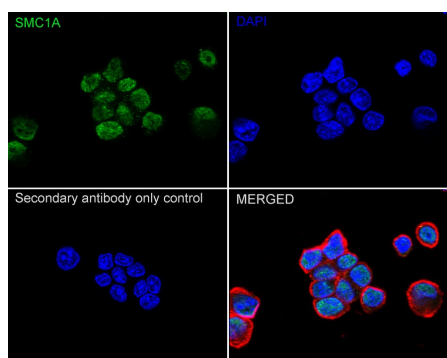
Fig3: Immunocytochemistry analysis of NIH/3T3 cells labeling SMC1A with Rabbit anti-SMC1A antibody (ET1611-97) at 1/100 dilution.



Cells were fixed in 100% precooled methanol for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-SMC1A antibody (ET1611-97) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

Fig4: Immunocytochemistry analysis of PC-12 cells labeling SMC1A with Rabbit anti-SMC1A antibody (ET1611-97) at 1/100 dilution.



Cells were fixed in 100% precooled methanol for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-SMC1A antibody (ET1611-97) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

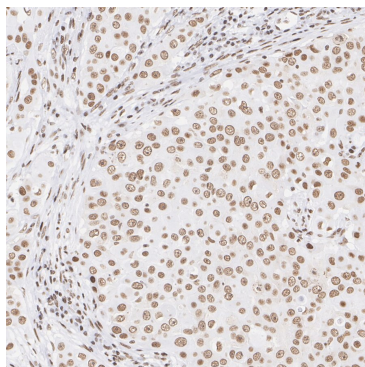


Fig5: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue with Rabbit anti-SMC1A antibody (ET1611-97) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (ET1611-97) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

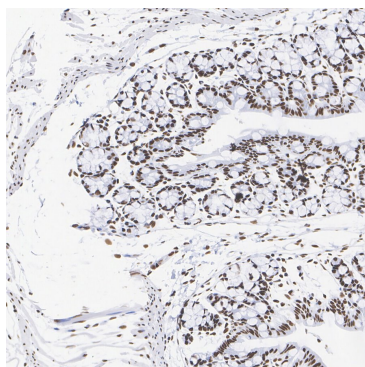


Fig6: Immunohistochemical analysis of paraffin-embedded mouse colon tissue with Rabbit anti-SMC1A antibody (ET1611-97) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (ET1611-97) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

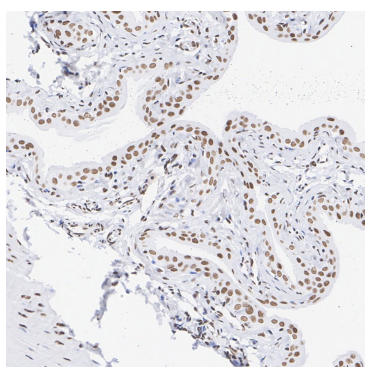


Fig7: Immunohistochemical analysis of paraffin-embedded rat bladder tissue with Rabbit anti-SMC1A antibody (ET1611-97) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (ET1611-97) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

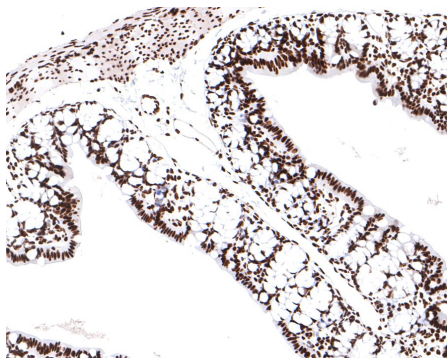


Fig8: Immunohistochemical analysis of paraffin-embedded rat large intestine tissue with Rabbit anti-SMC1A antibody (ET1611-97) at 1/400 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (ET1611-97) at 1/400 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Qiu Z et al. Functional interactions between NURF and Ctf regulate gene expression. *Mol Cell Biol* 35:224-37 (2015).
2. Mehta K et al. Human papillomaviruses activate and recruit SMC1 cohesin proteins for the differentiation-dependent life cycle through association with CTCF insulators. *PLoS Pathog* 11:e1004763 (2015).

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