SMC1-α antibody (pAb)

Catalog Nos: 61067, 61068
RRID: AB_2688006
Isotype: IgG
Application(s): ChIP-Seq, IP, WB
Reactivity: Human

Volumes: 100 µl, 10 µl
Purification: Affinity Purified
Host: Rabbit
Molecular Weight: 160 kDa

Background: The Structural Maintenance of Chromosomes (SMC) family proteins play critical roles in various nuclear events that require structural changes of chromosomes, including mitotic chromosome organization, DNA recombination and repair and global transcriptional repression. SMC1 has a myosin-like ATPase domain that serves as a molecular motor to help organize chromatin and is part of the cohesin complex that facilitates chromosome cohesion during the cell cycle. SMC1 and SMC3 form a heterodimeric complex required for metaphase progression in mitotic cells. SMC1 is also involved in DNA damage repair. Subsequent to double strand DNA breaks, SMC1 is phosphorylated by the ATM kinase. Phosphorylated SMC1 is crucial to the successful repair of DNA damage. Defects in SMC1 isoform A are the cause of Cornelia de Lange syndrome type 2, an inherited developmental disorder associated with malformations affecting multiple systems.

Immunogen: This SMC-α antibody was raised against a peptide within the C-terminal region of human SMC1-α.

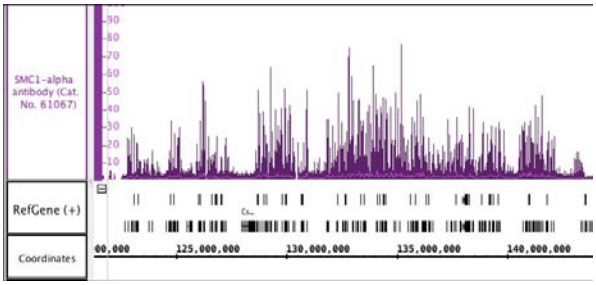
Buffer: Purified IgG in 70 mM Tris (pH 8), 105 mM NaCl, 31 mM glycine, 0.07 mM EDTA, 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

Application Notes:
Applications Validated by Active Motif:
ChIP-Seq: 4 µg (7 µl) per ChIP
IP: 10 µl per IP
WB*: 1:1,000 - 1:5,000 dilution

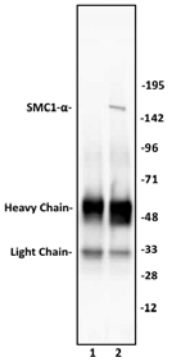
*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western blot.

Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

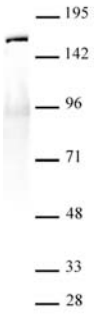
This product is for research use only and is not for use in diagnostic procedures.



SMC1-α antibody (pAb) tested by ChIP-Seq.
Chromatin immunoprecipitation (ChIP) was performed using the ChIP-IT® High Sensitivity Kit (Cat. No. 53040) with 15 µg of chromatin from mouse bone marrow cell chromatin and 4 µg SMC1-α antibody. ChIP DNA was sequenced on the Illumina HiSeq and 6.9 million sequence tags were mapped to identify SMC1-α binding sites.



SMC1- α antibody (pAb) tested by Immunoprecipitation.
10 µl of SMC1- α antibody was used to immunoprecipitate SMC1- α from 250 µg of HeLa nuclear cell extract (lane 2). 10 µl of rabbit IgG was used as a negative control (lane 1). The immunoprecipitated protein was detected by Western blotting using the SMC1- α antibody at a dilution of 1:5,000.



SMC1-α antibody (pAb) tested by Western blot.
Nuclear extract (20 µg) of HeLa cells probed with SMC1-α antibody at a dilution of 1:5,000.