

SMC6 (C-4): sc-515163

BACKGROUND

Breaks in double stranded DNA often arise during DNA replication or as a result of exposure to DNA-damaging agents. Quick and accurate repair of these breaks is crucial for cell survival and genomic stability. Structural maintenance of chromosomes (SMC) family members form heterodimeric complexes that modulate sister chromatid cohesion and chromosome condensation during mitosis. Two distinct SMC protein complexes are the SMC1/SMC3 heterodimer and the SMC2/SMC4 heterodimer. SMC5 and SMC6 play a crucial role in DNA repair as they form a complex that along with SUMO ligase, is also important in preventing DNA damage-induced apoptosis. This complex made up of SMC5 and SMC6 is crucial for sister chromatid homologous recombination DNA repair and also for prevention of chromosomal rearrangements.

REFERENCES

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7. Lindroos, H.B., Ström, L., Itoh, T., Katou, Y., Shirahige, K. and Sjögren, C. 2006. Chromosomal association of the SMC5/6 complex reveals that it functions in differently regulated pathways. *Mol. Cell* 22: 755-767.

CHROMOSOMAL LOCATION

Genetic locus: SMC6 (human) mapping to 2p24.2.

SOURCE

SMC6 (C-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 975-997 near the C-terminus of SMC6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-515163 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-515163 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SMC6 (C-4) is recommended for detection of SMC6 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SMC6 siRNA (h): sc-61565, SMC6 shRNA Plasmid (h): sc-61565-SH and SMC6 shRNA (h) Lentiviral Particles: sc-61565-V.

SMC6 (C-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of SMC6 isoforms: 126/129 kDa.

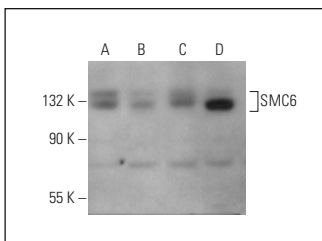
Molecular Weight (observed) of SMC6: 136 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

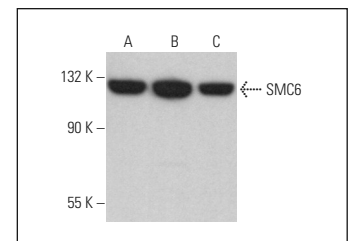
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SMC6 (C-4): sc-515163. Western blot analysis of SMC6 expression in HeLa nuclear extract (A) and HeLa (B), MCF7 (C) and Jurkat (D) whole cell lysates.



SMC6 (C-4): sc-515163. Western blot analysis of SMC6 expression in Jurkat (A), K-562 (B) and THP-1 (C) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.