

# Product Information

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## Anti-SMC6

produced in rabbit, IgG fraction of antiserum

Catalog Number **S7822**

### Product Description

Anti-SMC6 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 766-779 of human SMC6 (Gene ID: 79677) conjugated to KLH via an N-terminal cysteine residue. This sequence differs by one amino acid in mouse, and by two amino acids in rat. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-SMC6 (also known as SMC6L1) specifically recognizes SMC6 by immunoblotting (126 kDa). Staining of the SMC6 bands in immunoblotting is specifically inhibited by the immunizing peptide.

Proper cohesion of sister chromatids is a prerequisite for the correct segregation of chromosomes during cell division. The cohesin chromosome complex is required for sister chromatid cohesion.<sup>1</sup> There are at least six SMC (Structural Maintenance of Chromosomes) family members that form three heterodimers in specific combinations. SMC1L1 (SMC1) and SMC3 constitute the core of the cohesin complex that maintains sister chromatid cohesion, whereas SMC2 and SMC4 are components of the condensin complexes that mediate chromosome condensation during mitosis. A third complex, containing SMC5 and SMC6, is mainly involved in the cellular response to DNA damage in yeast as well as humans.<sup>1,2,3</sup> The yeast SMC5/6 complex contains several non-SMC elements (NSE), including MMS21 which sumoylates components of the complex.<sup>4</sup> Using human SMC5/6 deficient cells, the mechanism by which the SMC5/6 complex facilitates DNA repair was discovered. It was found that the SMC5/6 complex is recruited to nuclease-induced DSBs (double strand breaks) and is required for the recruitment of the hSMC1/3 cohesion complex to DSBs.<sup>5</sup>

### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

### Product Profile

**Immunoblotting:** a working dilution of 1:250-1:500 is recommended using a whole cell extract of HEK293-T expressing SMC6 cell.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

### References

1. Losada, A., et al., *Genes & Dev.*, **19**, 1269-1287 (2006).
2. Strunnikov, A.V., *J. Cell Biol.*, **123**, 1635-1648 (1993).
3. Hagstrom, K.A., and Meyer, B.J., *Nature Rev. Genet.*, **4**, 520-534 (2003).
4. Andrews, E.A., et al., *Mol. Cell. Biol.*, **25**, 185-196 (2005).
5. Potts, P.R., et al., *EMBO J.*, **25**, 3377-3388 (2006).

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