

#3650 Store at -20°C

SATB1 (L745) Antibody



100 µl
 (10 western blots)

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rev. 01/22/10

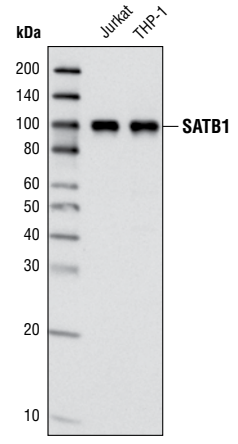
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IF-IC Endogenous	H, (Mk)	100 kDa	Rabbit**

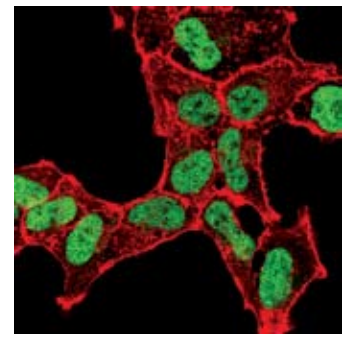
Background: Special AT-rich binding protein 1 (SATB1) functions as both a global chromatin organizer and a gene-specific transcription factor (1). SATB1 cooperates with promyelocytic leukemia protein (PML) to regulate global chromatin architecture by organizing chromatin into distinct loops via periodic anchoring of matrix attachment regions (MARs) in DNA to the nuclear matrix (1-3). In addition, SATB1 recruits multiple chromatin-remodeling proteins that contribute to specific gene activation and repression, including the chromatin remodeling enzymes ACF and ISWI, the histone deacetylase HDAC1, and the histone acetyltransferases PCAF and p300/CBP (4-6). Phosphorylation of SATB1 on Ser185 by protein kinase C regulates its interaction with HDAC1 and PCAF; phosphorylated SATB1 preferentially binds to HDAC1, while unphosphorylated SATB1 binds to PCAF (6). Acetylation of SATB1 on Lys136 by PCAF impairs its DNA binding activity and functions to remove SATB1 from gene promoters (6). SATB1 is expressed predominantly in thymocytes and is involved in gene regulation during T cell activation (1). However, SATB1 is also expressed in metastatic breast cancer cells and is a potential prognostic marker and therapeutic target for metastatic breast cancer (7). In a mouse model system, RNAi-mediated knockdown of SATB1 reversed tumorigenesis by inhibiting tumor growth and metastasis, while ectopic expression of SATB1 in non-metastatic breast cancer cells produced invasive tumors.

Specificity/Sensitivity: SATB1 (L745) Antibody detects endogenous levels of total SATB1 protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to the carboxy terminus of the human SATB1 protein. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from Jurkat and THP-1 cell lines using SATB1 (L745) Antibody.



Confocal immunofluorescent analysis of HEK/293 cells using SATB1 (L745) Antibody (green). Actin filaments have been labeled with DY-554 phalloidin (red).

Entrez-Gene ID #6304
Swiss-Prot Acc. #Q01826

Storage: Supplied in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western Blotting	1:1000
Immunoprecipitation	1:25
Immunofluorescence (IF-IC)	1:100

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

- (1) Galande, S. et al. (2007) *Curr Opin Genet Dev* 17, 408–14.
- (2) Cai, S. et al. (2006) *Nat Genet* 38, 1278–88.
- (3) Kumar, P.P. et al. (2007) *Nat Cell Biol* 9, 45–56.
- (4) Yasui, D. et al. (2002) *Nature* 419, 641–5.
- (5) Kumar, P.P. et al. (2005) *Mol Cell Biol* 25, 1620–33.
- (6) Pavan Kumar, P. et al. (2006) *Mol Cell* 22, 231–43.
- (7) Han, H.J. et al. (2008) *Nature* 452, 187–93.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.