

Product datasheet

Anti-SATB1 antibody - C-terminal ab228772

★★★★☆ 1 Abreviews 1 References 6 Images

Overview

Product name	Anti-SATB1 antibody - C-terminal
Description	Rabbit polyclonal to SATB1 - C-terminal
Host species	Rabbit
Tested applications	Suitable for: WB, IP, IHC-P, ChIP
Species reactivity	Reacts with: Mouse, Human Predicted to work with: Rat, Chicken, Rhesus monkey
Immunogen	Recombinant fragment within Human SATB1 (C terminal). The exact sequence is proprietary. Database link: Q01826
Positive control	WB: Jurkat and THP-1 whole cell lysates; Mouse thymus tissue extract. IP: HEK-293T whole cell lysate. IHC-P: Human colon carcinoma tissue. ChIP: Jurkat chromatin extract.
General notes	<p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.</p> <p>In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.</p> <p>We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.</p> <p>Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.</p> <p>Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.00 Preservative: 0.01% Thimerosal (merthiolate) Constituents: 78.99% PBS, 1% BSA, 20% Glycerol (glycerin, glycerine)
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab228772** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/500 - 1/10000. Predicted molecular weight: 86 kDa.
IP		1/100 - 1/500.
IHC-P		1/100 - 1/1000.
ChIP	★★★★☆	Use at an assay dependent concentration.

Target

Function

Crucial silencing factor contributing to the initiation of X inactivation mediated by Xist RNA that occurs during embryogenesis and in lymphoma (By similarity). Binds to DNA at special AT-rich sequences, the consensus SATB1-binding sequence (CSBS), at nuclear matrix- or scaffold-associated regions. Thought to recognize the sugar-phosphate structure of double-stranded DNA. Transcriptional repressor controlling nuclear and viral gene expression in a phosphorylated and acetylated status-dependent manner, by binding to matrix attachment regions (MARs) of DNA and inducing a local chromatin-loop remodeling. Acts as a docking site for several chromatin remodeling enzymes (e.g. PML at the MHC-I locus) and also by recruiting corepressors (HDACs) or coactivators (HATs) directly to promoters and enhancers. Modulates genes that are essential in the maturation of the immune T-cell CD8SP from thymocytes. Required for the switching of fetal globin species, and beta- and gamma-globin genes regulation during erythroid differentiation. Plays a role in chromatin organization and nuclear architecture during apoptosis. Interacts with the unique region (UR) of cytomegalovirus (CMV). Alu-like motifs and SATB1-binding sites provide a unique chromatin context which seems preferentially targeted by the HIV-1 integration machinery. Moreover, HIV-1 Tat may overcome SATB1-mediated repression of IL2 and IL2RA (interleukin) in T-cells by binding to the same domain than HDAC1. Delineates specific epigenetic modifications at target gene loci, directly upregulating metastasis-associated genes while downregulating tumor-suppressor genes. Reprograms chromatin organization and the transcription profiles of breast tumors to promote growth and metastasis.

Tissue specificity

Expressed predominantly in thymus.

Sequence similarities

Belongs to the CUT homeobox family.
Contains 2 CUT DNA-binding domains.
Contains 1 homeobox DNA-binding domain.

Post-translational modifications

Sumoylated. Sumoylation promotes cleavage by caspases.
Phosphorylated by PKC. Acetylated by PCAF. Phosphorylated form interacts with HDAC1, but unphosphorylated form interacts with PCAF. DNA binding properties are activated by phosphorylation and inactivated by acetylation. In opposition, gene expression is down-regulated by phosphorylation but up-regulated by acetylation.
Cleaved at Asp-254 by caspase-3 and caspase-6 during T-cell apoptosis in thymus and during B-cell stimulation. The cleaved forms can not dimerize and lose transcription regulation function because of impaired DNA and chromatin association.

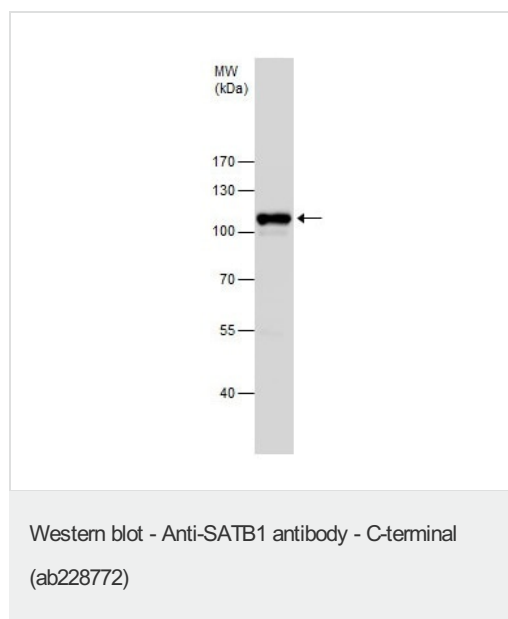
Cellular localization

Nucleus matrix. Nucleus > PML body. Organized into a cage-like network anchoring loops of heterochromatin and tethering specialized DNA sequences. When sumoylated, localized in promyelocytic leukemia nuclear bodies.

Form

There are 2 isoforms produced by alternative splicing.

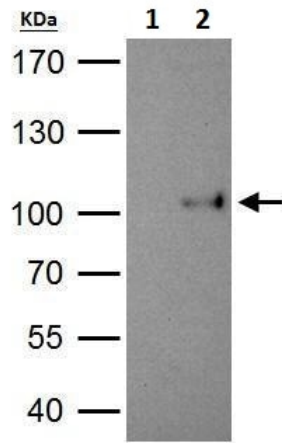
Images



Anti-SATB1 antibody - C-terminal (ab228772) at 1/500 dilution + Jurkat (human T cell leukemia cell line from peripheral blood) whole cell extract at 30 μ g

Predicted band size: 86 kDa

7.5% SDS-PAGE gel.

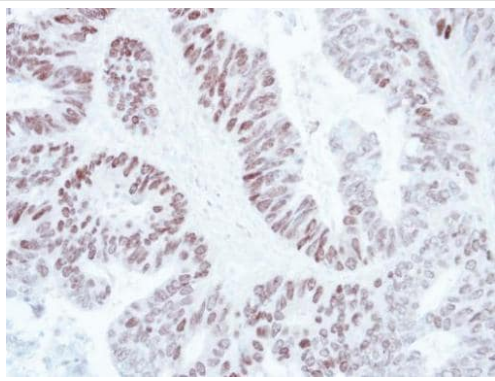


Immunoprecipitation - Anti-SATB1 antibody - C-terminal (ab228772)

SATB1 was immunoprecipitated from HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate with ab228772. Western blot was performed from the immunoprecipitate using ab228772 at 1/1000 dilution. Anti-rabbit IgG was used as secondary antibody.

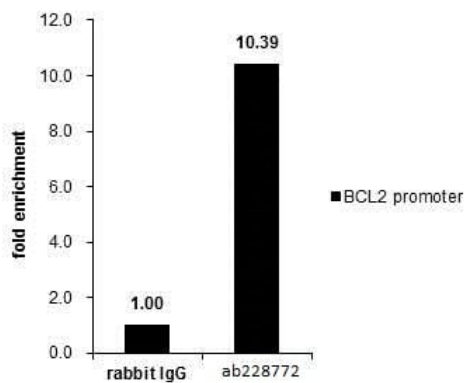
Lane 1: 2 µg of preimmune rabbit IgG instead of ab228772 in HEK-293T whole cell lysate.

Lane 2: ab228772 IP in HEK-293T whole cell lysate.



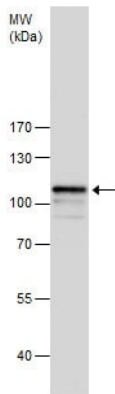
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SATB1 antibody - C-terminal (ab228772)

Paraffin-embedded human colon carcinoma tissue stained for SATB1 using ab228772 at 1/250 dilution in immunohistochemical analysis.



ChIP - Anti-SATB1 antibody - C-terminal (ab228772)

Cross-linked ChIP was performed with Jurkat (human T cell leukemia cell line from peripheral blood) chromatin extract and 5 µg of either control rabbit IgG or ab228772. The precipitated DNA was detected by PCR with primer set targeting to BCL2 promoter.

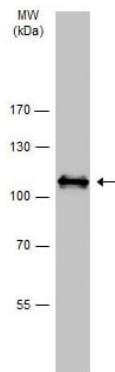


Western blot - Anti-SATB1 antibody - C-terminal (ab228772)

Anti-SATB1 antibody - C-terminal (ab228772) at 1/500 dilution + THP-1 (human monocytic leukemia cell line) whole cell extract at 30 µg

Predicted band size: 86 kDa

7.5% SDS-PAGE gel.



Western blot - Anti-SATB1 antibody - C-terminal (ab228772)

Anti-SATB1 antibody - C-terminal (ab228772) at 1/5000 dilution + Mouse thymus tissue extract at 50 µg

Secondary

HRP-conjugated anti-rabbit IgG

Predicted band size: 86 kDa

7.5% SDS-PAGE gel.

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