

phospho-SATB1 (Ser47) Rabbit pAb

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Catalog # AP52243

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q01826
Reactivity	Human, Mouse
Predicted	Pig, Dog, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Calculated MW	85957
Physical State	Liquid
Immunogen	KLH conjugated Synthesised phosphopeptide derived from human SATB1 around the phosphorylation site of Ser47
Epitope Specificity	LG(p-S)TG
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus matrix. Nucleus, PML body. Note=Organized into a cage-like network anchoring loops of heterochromatin and tethering specialized DNA sequences. When sumoylated, localized in promyelocytic leukemia nuclear bodies (PML NBs).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a matrix protein which binds nuclear matrix and scaffold-associating DNAs through a unique nuclear architecture. The protein recruits chromatin-remodeling factors in order to regulate chromatin structure and gene expression. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Sep 2010]

Additional Information

Gene ID	6304
Other Names	DNA-binding protein SATB1, Special AT-rich sequence-binding protein 1, SATB1 (HGNC:10541)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1ug/test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	SATB1 (HGNC:10541)
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 as HDAC1. Delineates specific epigenetic modifications at target gene loci, directly up-regulating metastasis- associated genes while down-regulating tumor-suppressor genes. Reprograms chromatin organization and the transcription profiles of breast tumors to promote growth and metastasis. Promotes neuronal differentiation of neural stem/progenitor cells in the adult subventricular zone, possibly by positively regulating the expression of NEUROD1 (By similarity).
Cellular Location	Nucleus matrix. Nucleus, PML body. Note=Organized into a cage-like network anchoring loops of heterochromatin and tethering specialized DNA sequences (PubMed:12692553). When sumoylated, localized in promyelocytic leukemia nuclear bodies (PML NBs) (PubMed:18408014)
Tissue Location	Expressed predominantly in thymus.

Background

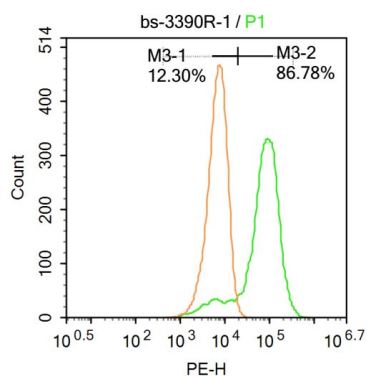
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References

Dickinson L.A.,et al.Cell 70:631-645(1992).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Totoki Y.,et al.Submitted (MAR-2005) to the EMBL/GenBank/DDBJ databases.
Muzny D.M.,et al.Nature 440:1194-1198(2006).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.

Images

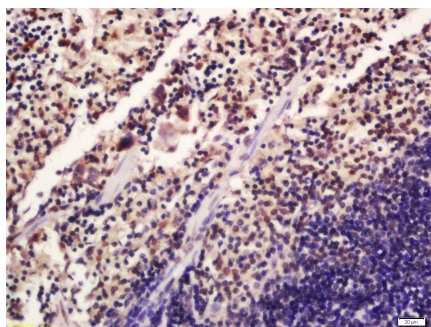
Blank control:Molt-4.



Primary Antibody (green line): Rabbit
Anti-Phospho-SATB1 (Ser47) antibody (AP52243)
Dilution: 1 μg / 10^6 cells;
Isotype Control Antibody (orange line): Rabbit IgG .
Secondary Antibody : Goat anti-rabbit IgG-AF647
Dilution: 1 μg /test.

Protocol

The cells were fixed with 4% PFA (10min at room temperature) and then permeabilized with 90% ice-cold methanol for 20 min at -20°C . The cells were then incubated in 5% BSA to block non-specific protein-protein interactions for 30 min at room temperature. Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.



Tissue/cell: mouse spleen tissue; 4%
Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling
bathing for 15min; Block endogenous peroxidase by 3%
Hydrogen peroxide for 30min; Blocking buffer (normal
goat serum, C-0005) at 37°C for 20 min;
Incubation: Anti-Phospho-SATB1 (Ser47) Polyclonal
Antibody, Unconjugated (AP52243) 1:200, overnight at
 4°C , followed by conjugation to the secondary
antibody (SP-0023) and DAB (C-0010) staining

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.