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SATB2 Rabbit pAb

Catalog # AP97459

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q3ZB87
Other Accession	Q3ZB87
Reactivity	Rat, Human, Mouse
Predicted	Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	83 KDa
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SATB2
Epitope Specificity	451-485/733
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the CUT homeobox family. Contains 2 CUT DNA-binding domains. Contains 1 homeobox DNA-binding domain.
SUBUNIT	Interacts with ATF4 and RUNX2; resulting in enhanced DNA binding and transactivation by these transcription factors (By similarity). Interacts with PIAS1.
Post-translational modifications	Sumoylated by PIAS1. Sumoylation promotes nuclear localization, but represses transcription factor activity.
DISEASE	Note=Chromosomal aberrations involving SATB2 are found in isolated cleft palate. Translocation t(2;7); translocation t(2;11). Defects in SATB2 are a cause of cleft palate isolated (CPI) [MIM:119540]. A congenital fissure of the soft and/or hard palate, due to faulty fusion. Isolated cleft palate is not associated with cleft lips. Some patients may manifest other craniofacial dysmorphic features, mental retardation, and osteoporosis. Note=A chromosomal aberration involving SATB2 is found in a patient with classical features of Toriello-Carey syndrome. Translocation t(2;14)(q33;q22).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	SATB2 is a nuclear matrix protein that influences craniofacial formation mechanisms, such as jaw and palate development, and is part of a transcriptional network regulating skeletal development and osteoblast differentiation. Highly expressed in adult and fetal brain, SATB2 contains two CUT DNA-binding domains and one homeobox domain and is closely related to SATB1, a transcriptional repressor. SATB2 is thought to bind to matrix-attachment regions (MARs) and regulate MAR-dependent transcription of various genes, including HoxA2 and ATF4 (CREB-2), involved in skeletal development. Functioning as both a transcriptional activator and repressor, SATB2 can also act as a protein scaffold that can enhance the activity of other DNA-binding proteins. Defects in the gene encoding SATB2 are the cause of cleft palate manifested in conjunction with severe mental retardation.

Additional Information

Gene ID	23314
Other Names	C2DELq32q33; DEL2Q32Q33; GLSS; BAP002; mKIAA1034; RGD1562369; Q3ZB87_HUMAN; Q4V763_HUMAN; SATB2_HUMAN; SATB2; Special AT-rich sequence-binding protein 2; KIAA1034; Q546B3_MOUSE; Special AT-rich sequence-binding protein; SATB2_MOUSE; D3ZJ19_RAT; SATB homeobox 2; SATB family member 2
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=2ug/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	SATB2 Rabbit pAb
Function	Binds to DNA, at nuclear matrix- or scaffold-associated regions. Thought to recognize the sugar-phosphate structure of double-stranded DNA. Transcription factor controlling nuclear gene expression, 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 and also by recruiting corepressors (HDACs) or coactivators (HATs) directly to promoters and enhancers. Required for the initiation of the upper-layer neurons (UL1) specific genetic program and for the inactivation of deep-layer neurons (DL) and UL2 specific genes, probably by modulating BCL11B expression. Repressor of Ctip2 and regulatory determinant of corticocortical connections in the developing cerebral cortex. May play an important role in palate formation. Acts as a molecular node in a transcriptional network regulating skeletal development and osteoblast differentiation.

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