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ZBTB7A Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14208b

Product Information

Application	WB, IHC-P, E
Primary Accession	O95365
Other Accession	NP_056982.1
Reactivity	Human
Predicted	Mouse, Rat, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34117
Calculated MW	61439
Antigen Region	514-542

Additional Information

Gene ID	51341
Other Names	Zinc finger and BTB domain-containing protein 7A, Factor binding IST protein 1, FBI-1, Factor that binds to inducer of short transcripts protein 1, HIV-1 1st-binding protein 1, Leukemia/lymphoma-related factor, POZ and Krueppel erythroid myeloid ontogenic factor, POK erythroid myeloid ontogenic factor, Pokemon, TTF-I-interacting peptide 21, TIP21, Zinc finger protein 857A, ZBTB7A, FBI1, LRF, ZBTB7, ZNF857A
Target/Specificity	This ZBTB7A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 514-542 amino acids from the C-terminal region of human ZBTB7A.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ZBTB7A Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ZBTB7A (HGNC:18078)
Function	Transcription factor that represses the transcription of a wide range of genes involved in cell proliferation and differentiation (PubMed:14701838, PubMed:17595526, PubMed:20812024, PubMed:25514493, PubMed:26455326, PubMed:26816381). Directly and specifically binds to the consensus sequence 5'-[GA][CA]GACCCCCCCCC-3' and represses transcription both by regulating the organization of chromatin and through the direct recruitment of transcription factors to gene regulatory regions (PubMed:12004059, PubMed:17595526, PubMed:20812024, PubMed:25514493, PubMed:26816381). Negatively regulates SMAD4 transcriptional activity in the TGF-beta signaling pathway through these two mechanisms (PubMed:25514493). That is, recruits the chromatin regulator HDAC1 to the SMAD4-DNA complex and in parallel prevents the recruitment of the transcriptional activators CREBBP and EP300 (PubMed:25514493). Collaborates with transcription factors like RELA to modify the accessibility of gene transcription regulatory regions to secondary transcription factors (By similarity). Also directly interacts with transcription factors like SP1 to prevent their binding to DNA (PubMed:12004059). Functions as an androgen receptor/AR transcriptional corepressor by recruiting NCOR1 and NCOR2 to the androgen response elements/ARE on target genes (PubMed:20812024). Thereby, negatively regulates androgen receptor signaling and androgen-induced cell proliferation (PubMed:20812024). Involved in the switch between fetal and adult globin expression during erythroid cells maturation (PubMed:26816381). Through its interaction with the NuRD complex regulates chromatin at the fetal globin genes to repress their transcription (PubMed:26816381). Specifically represses the transcription of the tumor suppressor ARF isoform from the CDKN2A gene (By similarity). Efficiently abrogates E2F1-dependent CDKN2A transactivation (By similarity). Regulates chondrogenesis through the transcriptional repression of specific genes via a mechanism that also requires histone deacetylation (By similarity). Regulates cell proliferation through the transcriptional regulation of genes involved in glycolysis (PubMed:26455326). Involved in adipogenesis through the regulation of genes involved in adipocyte differentiation (PubMed:14701838). Plays a key role in the differentiation of lymphoid progenitors into B and T lineages (By similarity). Promotes differentiation towards the B lineage by inhibiting the T-cell instructive Notch signaling pathway through the specific transcriptional repression of Notch downstream target genes (By similarity). Also regulates osteoclast differentiation (By similarity). May also play a role, independently of its transcriptional activity, in double-strand break repair via classical non-homologous end joining/cNHEJ (By similarity). Recruited to double-strand break sites on damage DNA, interacts with the DNA-dependent protein kinase complex and directly regulates its stability and activity in DNA repair (By similarity). May also modulate the splicing activity of KHDRBS1 toward BCL2L1 in a mechanism which is histone deacetylase-dependent and thereby negatively regulates the pro-apoptotic effect of KHDRBS1 (PubMed:24514149).
Cellular Location	Nucleus. Note=Recruited to double-strand break sites of damaged DNA. {ECO:0000250|UniProtKB:O88939}
Tissue Location	Widely expressed (PubMed:9927193). In normal thymus, expressed in medullary epithelial cells and Hassle's corpuscles (at protein level) (PubMed:15662416). In tonsil, expressed in squamous epithelium and germinal center lymphocytes (at protein level) (PubMed:15662416). Up-regulated in a subset of lymphomas, as well as in a subset of breast, lung, colon, prostate and bladder carcinomas (at protein level) (PubMed:15662416). Expressed in adipose tissues (PubMed:14701838).

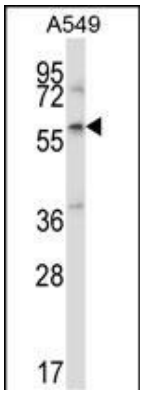
Background

ZBTB7A plays a key role in the instruction of early lymphoid progenitors to develop into B lineage by repressing T-cell instructive Notch signals (By similarity). Specifically represses the transcription of the CDKN2A gene. Efficiently abrogates E2F1-dependent CDKN2A transactivation/de-repression. Binds to the consensus sequence 5'-[GA][CA]GACCCCCCCCC-3' (By similarity).

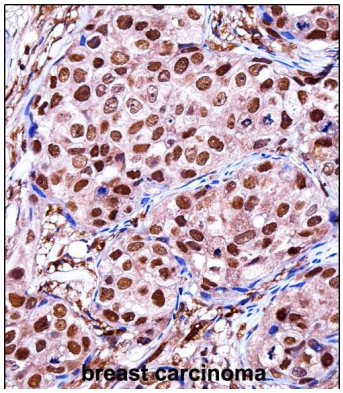
References

Qu, H., et al. Cancer Invest. 28(6):672-678(2010)
Zu, X., et al. Cell. Mol. Biol. Lett. 15(2):260-271(2010)
Cui, J., et al. Mol. Biol. Rep. 37(3):1627-1632(2010)
Choi, W.I., et al. J. Biol. Chem. 284(19):12633-12644(2009)
Choi, W.I., et al. Cell. Physiol. Biochem. 23 (4-6), 359-370 (2009) :

Images



ZBTB7A Antibody (C-term) (Cat. #AP14208b) western blot analysis in A549 cell line lysates (35ug/lane).This demonstrates the ZBTB7A antibody detected the ZBTB7A protein (arrow).



ZBTB7A Antibody (C-term) (AP14208b)immunohistochemistry analysis in formalin fixed and paraffin embedded human breast carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of ZBTB7A Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

Citations

- ZBTB7A functioned as an oncogene in colorectal cancer

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