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ZBTB7B Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1364a

Product Information

Application	WB, IHC, ICC, E
Primary Accession	O15156
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	7C12
Isotype	IgG1
Calculated MW	58027
Description	ZBTB7B is a transcription regulator that acts as a key regulator of lineage commitment of immature T-cell precursors. It is necessary and sufficient for commitment of CD4 lineage, while its absence causes CD8 commitment. Development of immature T-cell precursors (thymocytes) to either the CD4 helper or CD8 killer T-cell lineages correlates precisely with their T-cell receptor specificity for major histocompatibility complex class II or class I molecules, respectively. ZBTB7B is a transcriptional repressor of the collagen COL1A1 and COL1A2 genes. It may also function as a repressor of fibronectin and possibly other extracellular matrix genes.
Immunogen	Purified recombinant fragment of human ZBTB7B expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	51043
Other Names	Zinc finger and BTB domain-containing protein 7B, Krueppel-related zinc finger protein cKrox, hcKrox, T-helper-inducing POZ/Krueppel-like factor, Zinc finger and BTB domain-containing protein 15, Zinc finger protein 67 homolog, Zfp-67, Zinc finger protein 857B, Zinc finger protein Th-POK, ZBTB7B, ZBTB15, ZFP67, ZNF857B
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 ICC~~N/A E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ZBTB7B Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ZBTB7B (HGNC:18668)
Synonyms	ZBTB15, ZFP67, ZNF857B
Function	Transcription regulator that acts as a key regulator of lineage commitment of immature T-cell precursors. Exerts distinct biological functions in the mammary epithelial cells and T cells in a tissue-specific manner. Necessary and sufficient for commitment of CD4 lineage, while its absence causes CD8 commitment. Development of immature T-cell precursors (thymocytes) to either the CD4 helper or CD8 killer T-cell lineages correlates precisely with their T-cell receptor specificity for major histocompatibility complex class II or class I molecules, respectively. Cross-antagonism between ZBTB7B and CBF complexes are determinative to CD4 versus CD8 cell fate decision. Suppresses RUNX3 expression and imposes CD4+ lineage fate by inducing the SOCS suppressors of cytokine signaling. induces, as a transcriptional activator, SOCS genes expression which represses RUNX3 expression and promotes the CD4+ lineage fate. During CD4 lineage commitment, associates with multiple sites at the CD8 locus, acting as a negative regulator of the CD8 promoter and enhancers by epigenetic silencing through the recruitment of class II histone deacetylases, such as HDAC4 and HDAC5, to these loci. Regulates the development of IL17-producing CD1d-restricted naural killer (NK) T cells. Also functions as an important metabolic regulator in the lactating mammary glands. Critical feed-forward regulator of insulin signaling in mammary gland lactation, directly regulates expression of insulin receptor substrate-1 (IRS-1) and insulin-induced Akt-mTOR-SREBP signaling (By similarity). Transcriptional repressor of the collagen COL1A1 and COL1A2 genes. May also function as a repressor of fibronectin and possibly other extracellular matrix genes (PubMed:9370309). Potent driver of brown fat development, thermogenesis and cold-induced beige fat formation. Recruits the brown fat lncRNA 1 (Blnc1):HNRNPU ribonucleoprotein complex to activate thermogenic gene expression in brown and beige adipocytes (By similarity).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:Q64321}.

References

1.Proc Natl Acad Sci U S A. 1994 Sep 27;91(20):9372-6. 2.J Biol Chem. 2000 Sep 1;275(35):27421-38. 3.J Cell Biochem. 2009 Aug 15;107(6):1037-45. Review.

Images

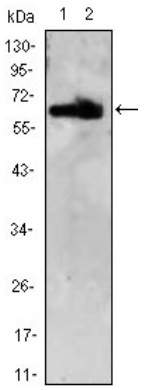

Figure 1: Western blot analysis using ZBTB7B mAb against HEK293 (1,2) cell lysate.

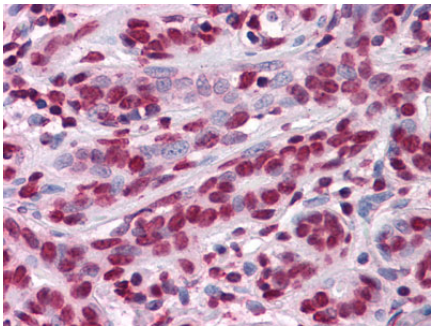

Figure 2: Immunohistochemical analysis of paraffin-embedded human Breast tissues using anti-ZBTB7B mouse mAb

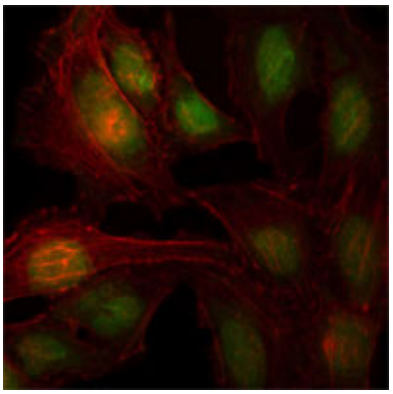

Figure 3: Immunofluorescence analysis of Hela cells using ZBTB7B mouse mAb (green). Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin