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RUNX1 Antibody

Catalog # ASC10897

Product Information

Application	WB, E
Primary Accession	Q01196
Other Accession	AAI36381, 223459612
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	48737
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	RUNX1 antibody can be used for detection of RUNX1 by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	861
Other Names	Runt-related transcription factor 1, Acute myeloid leukemia 1 protein, Core-binding factor subunit alpha-2, CBF-alpha-2, Oncogene AML-1, Polyomavirus enhancer-binding protein 2 alpha B subunit, PEA2-alpha B, PEBP2-alpha B, SL3-3 enhancer factor 1 alpha B subunit, SL3/AKV core-binding factor alpha B subunit, RUNX1, AML1, CBFA2
Target/Specificity	RUNX1;
Reconstitution & Storage	RUNX1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	RUNX1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RUNX1
Synonyms	AML1, CBFA2
Function	Forms the heterodimeric complex core-binding factor (CBF) with CBFB. RUNX members modulate the transcription of their target genes through recognizing the core consensus binding sequence 5'- TGTGGT-3', or very rarely, 5'-TGCGGT-3', within their regulatory regions via their runt domain, while CBFB is a non-DNA-binding regulatory subunit that allosterically

	enhances the sequence-specific DNA-binding capacity of RUNX. The heterodimers bind to the core site of a number of enhancers and promoters, including murine leukemia virus, polyomavirus enhancer, T-cell receptor enhancers, LCK, IL3 and GM-CSF promoters (Probable). Essential for the development of normal hematopoiesis (PubMed:17431401). Acts synergistically with ELF4 to transactivate the IL-3 promoter and with ELF2 to transactivate the BLK promoter (PubMed:10207087, PubMed:14970218). Inhibits KAT6B-dependent transcriptional activation (By similarity). Involved in lineage commitment of immature T cell precursors. CBF complexes repress ZBTB7B transcription factor during cytotoxic (CD8+) T cell development. They bind to RUNX-binding sequence within the ZBTB7B locus acting as transcriptional silencer and allowing for cytotoxic T cell differentiation. CBF complexes binding to the transcriptional silencer is essential for recruitment of nuclear protein complexes that catalyze epigenetic modifications to establish epigenetic ZBTB7B silencing (By similarity). Controls the anergy and suppressive function of regulatory T-cells (Treg) by associating with FOXP3. Activates the expression of IL2 and IFNG and down-regulates the expression of TNFRSF18, IL2RA and CTLA4, in conventional T-cells (PubMed:17377532). Positively regulates the expression of RORC in T-helper 17 cells (By similarity).
Cellular Location	Nucleus.
Tissue Location	Expressed in all tissues examined except brain and heart. Highest levels in thymus, bone marrow and peripheral blood

Background

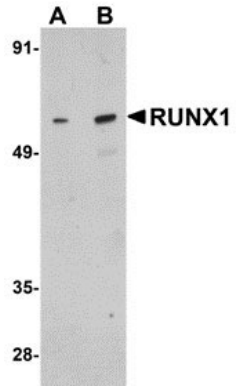
RUNX1 Antibody: RUNX1 is one of three mammalian RUNX genes that control multiple aspects of embryonic development and are responsible for the pathogenesis of many human diseases. RUNX1 plays major roles in the development of nociceptive sensory neurons in addition to hematopoietic stem cells (HSC) with the exception of the erythroid lineage. During development, Notch signals mediate RUNX1 induction with SCL/GATA/Ets factors, and Wnt signals potentially cooperate with RUNX1 to facilitate adult HSC expansion via cooperative induction of cyclin D, cdk4, and other cell cycle regulators. In turn, RUNX1 regulates cell cycle transitions dependent on functional/physical interactions with other proteins such as HDAC1 and -3, mSin3A, p300, SMAD proteins, and LEF/TCF.

References

Lund AH and van Lohuizen M. RUNX: a trilogy of cancer genes. Cancer Cell2002; 1:213-5.
Inoue K, Shiga T, and Ito Y. Runx transcription factors in neuronal development. Neur. Dev.2008; 3:20.
North TE, Stacy T, Matheny CJ, et al. Runx1 is expressed in adult mouse hematopoietic stem cells and differentiating myeloid and lymphoid cells, but not in maturing erythroid cells. Stem Cells2004; 22:158-68.
Lee TI, Jenner RG, Boyer LA. Control of developmental regulators by Polycomb in human embryonic stem cells. Cell2006; 125:301-13.

Images

Western blot analysis of RUNX1 in Raji cell lysate with RUNX1 antibody at (A) 1 and (B) 2 µg/mL.



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