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RUNX2 Antibody (S533)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7735d

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q13950
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	56648
Antigen Region	445-474

Additional Information

Gene ID	860
Other Names	Runt-related transcription factor 2, Acute myeloid leukemia 3 protein, Core-binding factor subunit alpha-1, CBF-alpha-1, Oncogene AML-3, Osteoblast-specific transcription factor 2, OSF-2, Polyomavirus enhancer-binding protein 2 alpha A subunit, PEA2-alpha A, PEBP2-alpha A, SL3-3 enhancer factor 1 alpha A subunit, SL3/AKV core-binding factor alpha A subunit, RUNX2, AML3, CBFA1, OSF2, PEBP2A
Target/Specificity	This RUNX2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 445-474 amino acids surrounding S465 of human RUNX2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 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	RUNX2 Antibody (S533) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RUNX2

Synonyms	AML3, CBFA1, OSF2, PEBP2A
Function	Transcription factor involved in osteoblastic differentiation and skeletal morphogenesis (PubMed:28505335, PubMed:28703881, PubMed:28738062). Essential for the maturation of osteoblasts and both intramembranous and endochondral ossification. CBF binds to the core site, 5'-PYGPYGGT-3', of a number of enhancers and promoters, including murine leukemia virus, polyomavirus enhancer, T-cell receptor enhancers, osteocalcin, osteopontin, bone sialoprotein, alpha 1(I) collagen, LCK, IL-3 and GM-CSF promoters. In osteoblasts, supports transcription activation: synergizes with SPEN/MINT to enhance FGFR2- mediated activation of the osteocalcin FGF-responsive element (OCFRE) (By similarity). Inhibits KAT6B-dependent transcriptional activation.
Cellular Location	Nucleus. Cytoplasm {ECO:0000250|UniProtKB:Q08775}
Tissue Location	Specifically expressed in osteoblasts.

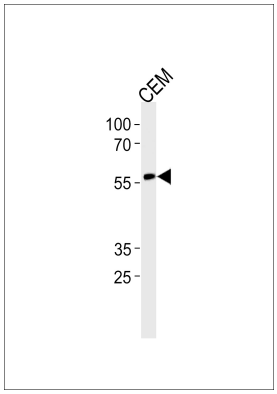
Background

Runx2 is a member of the RUNX family of transcription factors. It is a nuclear protein with an Runt DNA-binding domain. This protein is essential for osteoblastic differentiation and skeletal morphogenesis and acts as a scaffold for nucleic acids and regulatory factors involved in skeletal gene expression. It can bind DNA both as a monomer or, with more affinity, as a subunit of a heterodimeric complex. Mutations in the Runx2 gene have been associated with the bone development disorder cleidocranial dysplasia (CCD).

References

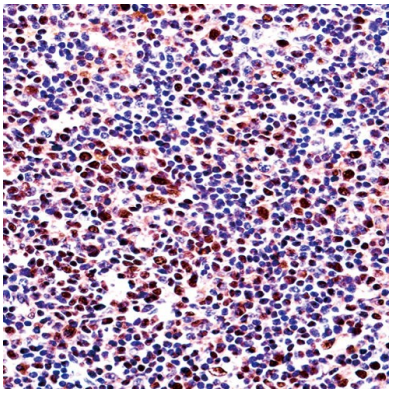
Rich,J.T., Biochem. Biophys. Res. Commun. 372 (1), 230-235 (2008) Ermakov,S., Ann. Hum. Genet. 72 (PT 4), 510-518 (2008) Endo,T., J. Clin. Endocrinol. Metab. 93 (6), 2409-2412 (2008)

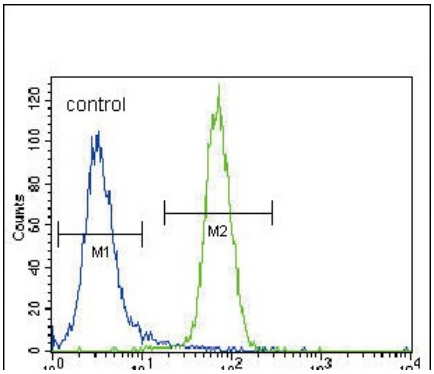
Images



RUNX2 Antibody (S533) (Cat. #AP7735d) western blot analysis in CEM cell line lysates (35ug/lane).This demonstrates the RUNX2 antibody detected the RUNX2 protein (arrow).

RUNX2 Antibody (S533) (AP7735d)immunohistochemistry analysis in formalin fixed and paraffin embedded human tonsil tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of RUNX2 Antibody (S533) for immunohistochemistry. Clinical relevance has not been evaluated.





RUNX2 Antibody (S533) (Cat. #AP7735d) flow cytometric analysis of NCI-H460 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- AGEs-Induced Calcification and Apoptosis in Human Vascular Smooth Muscle Cells Is Reversed by Inhibition of Autophagy
- PELP1 promotes the expression of RUNX2 via the ERK pathway during the osteogenic differentiation of human periodontal ligament stem cells
- LXR/RXR pathway signaling associated with triple-negative breast cancer in African American women.