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Phospho-RUNX2(S465) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3559a

Product Information

Application	WB, DB, E
Primary Accession	Q13950
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	56648

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 phosphopeptide corresponding to amino acid residues surrounding S465 of human RUNX2.
Dilution	WB~~1:1000 DB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. 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	Phospho-RUNX2(S465) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RUNX2
Synonyms	AML3, CBFA1, OSF2, PEBP2A
	Transcription factor involved in osteoblastic differentiation and skeletal

Function	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.

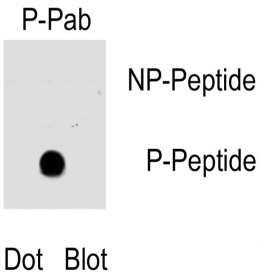
Background

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).

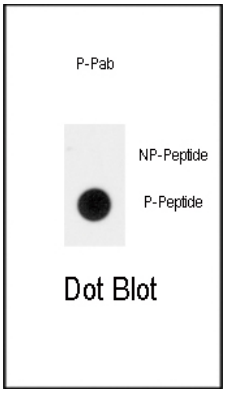
References

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



Dot blot analysis of Phospho-RUNX2(S465) Antibody (Cat. #AP3559a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0. 5ug per ml.



Dot blot analysis of anti-Phospho-RUNX2-pS465 Antibody (Cat.#AP3559a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.

Citations

- Identification of the hub genes RUNX2 and FN1 in gastric cancer
- Skeletal stem cell physiology on functionally distinct titania nanotopographies.
- Regulation of mechanical stress-induced MMP-13 and ADAMTS-5 expression by RUNX-2 transcriptional factor in SW1353 chondrocyte-like cells.
- A genomics approach in determining nanotopographical effects on MSC phenotype.
- Using nanotopography and metabolomics to identify biochemical effectors of multipotency.
- Codonolactone, a sesquiterpene lactone isolated from Chloranthus henryi Hemsl, inhibits breast cancer cell invasion, migration and metastasis by downregulating the transcriptional activity of Runx2.
- In vitro inhibitory effects of terpenoids from Chloranthus multistachys on epithelial-mesenchymal transition via down-regulation of Runx2 activation in human breast cancer.
- The natural compound codonolactone impairs tumor induced angiogenesis by downregulating BMP signaling in endothelial cells.
- The natural compound codonolactone attenuates TGF-β1-mediated epithelial-to-mesenchymal transition and motility of breast cancer cells.
- Material-driven fibronectin assembly for high-efficiency presentation of growth factors.