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DMP1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP18965a

Product Information

Application	WB, E
Primary Accession	Q13316
Other Accession	NP_001073380.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB39184
Calculated MW	55782
Antigen Region	146-175

Additional Information

Gene ID	1758
Other Names	Dentin matrix acidic phosphoprotein 1, DMP-1, Dentin matrix protein 1, DMP1
Target/Specificity	This DMP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 146-175 amino acids from the N-terminal region of human DMP1.
Dilution	WB~~1:1000 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	DMP1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DMP1
Function	May have a dual function during osteoblast differentiation. In the nucleus of undifferentiated osteoblasts, unphosphorylated form acts as a transcriptional component for activation of osteoblast- specific genes like osteocalcin. During the osteoblast to osteocyte transition phase it is phosphorylated and

	exported into the extracellular matrix, where it regulates nucleation of hydroxyapatite.
Cellular Location	Nucleus. Cytoplasm. Secreted, extracellular space, extracellular matrix. Note=In proliferating preosteoblasts it is nuclear, during early maturation stage is cytoplasmic and in mature osteoblast localizes in the mineralized matrix. Export from the nucleus of differentiating osteoblast is triggered by the release of calcium from intracellular stores followed by a massive influx of this pool of calcium into the nucleus
Tissue Location	Expressed in tooth particularly in odontoblast, ameloblast and cementoblast

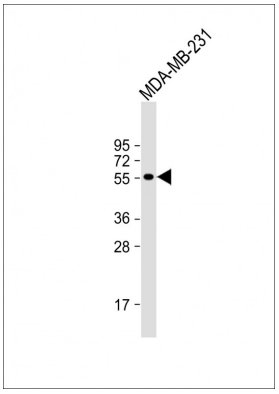
Background

Dentin matrix acidic phosphoprotein is an extracellular matrix protein and a member of the small integrin binding ligand N-linked glycoprotein family. This protein, which is critical for proper mineralization of bone and dentin, is present in diverse cells of bone and tooth tissues. The protein contains a large number of acidic domains, multiple phosphorylation sites, a functional arg-gly-asp cell attachment sequence, and a DNA binding domain. In undifferentiated osteoblasts it is primarily a nuclear protein that regulates the expression of osteoblast-specific genes. During osteoblast maturation the protein becomes phosphorylated and is exported to the extracellular matrix, where it orchestrates mineralized matrix formation. Mutations in the gene are known to cause autosomal recessive hypophosphatemia, a disease that manifests as rickets and osteomalacia. The gene structure is conserved in mammals. Two transcript variants encoding different isoforms have been described for this gene.

References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Joslyn, G., et al. Alcohol. Clin. Exp. Res. 34(5):800-812(2010)
Turan, S., et al. Bone 46(2):402-409(2010)
Pereira, R.C., et al. Bone 45(6):1161-1168(2009)
Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)

Images



Anti-DMP1 Antibody (N-term) at 1:1000 dilution + MDA-MB-231 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 56 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Antimicrobial Peptide- and Dentin Matrix-Functionalized Hydrogel for Vital Pulp Therapy via Synergistic Bacteriostasis, Immunomodulation, and Dentinogenesis