Datasheet for ABIN1889432

DMP1 ELISA Kit

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Overview

Quantity:	96 tests
Target:	DMP1 (DMTF1)
Binding Specificity:	AA 17-503
Reactivity:	Mouse
Method Type:	Sandwich ELISA
Detection Range:	156-10.000 pg/mL
Minimum Detection Limit:	156 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Mouse DMP-1
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA), Tissue Homogenate
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: L17-Y503
Specificity:	Expression system for standard: NSO Immunogen sequence: L17-Y503
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<10pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g Nacl

Target Details

Target:	DMP1 (DMTF1)
Alternative Name:	DMP1 (DMTF1 Products)
Background:	Protein 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 (By similarity). . Background: Dentin matrix acidic phosphorprotein 1 is a protein that in humans is encoded by the DMP1 gene. It belongs to the small integrin-binding ligand N-linked glycoprotein(SIBLING) family of secreted phosphoproteins. This gene is mapped to 4q22.1. This protein, which is critical for proper mineralization of bone and dentin, is present in diverse cells of bone and tooth tissues. In undifferentiated osteoblasts, DMP-1 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. Synonyms: Dentin matrix acidic phosphoprotein 1,DMP-1,Dentin matrix protein 1,AG1,Dmp1,Dmp, Full Gene Name: Dentin matrix acidic phosphoprotein 1 Cellular Localisation: Nucleus . Cytoplasm . Secreted, extracellular space, extracellular matrix . 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 (By similarity)..
Gene ID:	13406
UniProt:	O55188

Application Details

Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	Tissue Specificity: Expressed in tooth particularly in odontoblast, ameloblast and cementoblast. Also expressed in bone particularly in osteoblast.
Plate:	Pre-coated
Protocol:	mouse DMP-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from rat specific for DMP-1 has been precoated onto 96-well plates. Standards(NSO, L17-Y503) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for DMP-1 is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the mouse DMP-1 amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 10,000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 312pg/mL, 156pg/mL mouse DMP-1 standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of mouse cell culture supernates, serum, plasma(heparin, EDTA) or tissue homogenates to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each mouse DMP-1 standard solution and each sample be measured in duplicate.
Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 1680, Standard deviation: 70.56, CV(%): 4.2 • Sample 2: n=16, Mean(pg/ml): 4025, Standard deviation: 246, CV(%): 6.1 • Sample 3: n=16, Mean(pg/ml): 6562, Standard deviation: 374, CV(%): 5.7, • Sample 1: n=24, Mean(pg/ml): 1553, Standard deviation: 89.96, CV(%): 5.8 • Sample 2: n=24, Mean(pg/ml): 3977, Standard deviation: 290, CV(%): 7.3 • Sample 3: n=24, Mean(pg/ml): 6454, Standard deviation: 419.51, CV(%): 6.5
Restrictions:	For Research Use only

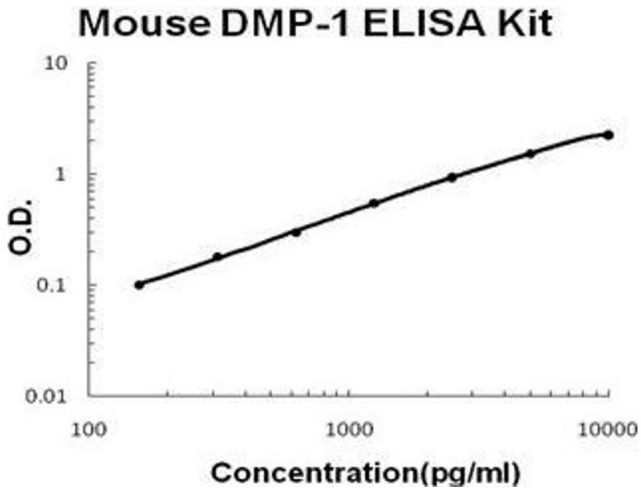
Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles

Handling

Expiry Date:	12 months

Images



ELISA

Image 1. Mouse DMP-1 PicoKine ELISA Kit standard curve