

Recombinant Human DMP1 Protein (His tag)

Cat.NO.: TP08183

3th Edition

Synonyms:ARHP;ARHR;DMP-1

Description:Dentin matrix acidic phosphoprotein (DMP1) 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. DMP1 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, DMP1 becomes phosphorylated and is exported to the extracellular matrix, where it orchestrates mineralized matrix formation. Mutations in DMP1 are known to cause autosomal recessive hypophosphatemia, a disease that manifests as rickets and osteomalacia. DMP1 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.

Form:PBS

Molecular Weight:55.4 kDa

Sequences:Met 1-Tyr 513

Purity:> 95% by HPLC

Concentration:

Endotoxin Level:<1.0 EU per 1 ug of protein (determined by LAL method)

Storage:Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.