

Recombinant human DMP1 protein

Catalog Number: bs-42333P

Concentration: >1mg/ml

Species: Human

AA Seq: 18-131/513

Predicted MW: 30.3

Tags: N-Trx-His

Endotoxin: Not analyzed

Purity: >90% as determined by SDS-PAGE

Purification: AC

Form: Lyophilized or Liquid

Storage: 20mM Tris-HCl (pH=8.0).

Stored at -70°C or -20°C. Avoid repeated freeze/thaw cycles.

Background: DMP-1 is a member of the small integrin ligand N-linked glycoprotein family. It is important for the mineralization of bone and dentin. DMP-1 is expressed in bone, tooth and hypertrophic cartilage. It is synthesized by preosteoblasts and contains a large number of acidic domains. DMP-1 localizes to the nucleus of undifferentiated osteoblasts where it functions as a transcriptional regulator for osteoblast-specific gene activation and induces osteoblast differentiation. During osteoblast maturation, DMP-1 undergoes a conformational change and becomes phosphorylated by casein kinase II in response to an influx of calcium ions to the nucleus. DMP-1 is then exported to the extracellular matrix (ECM) where it regulates the nucleation of hydroxyapatite and the formation of calcified tissue. DMP-1 is proteolytically processed into N- and C-terminal fragments in the ECM of bone and dentin. The protein has also been identified in bone as a high molecular weight proteoglycan comprised of the N-terminal DMP-1 fragment and chondroitin sulfate. The loss of DMP-1 can result in hypomineralized bone.

VALIDATION IMAGES



The purity of the protein is greater than 85% as

determined by reducing SDS-PAGE.