

Catalog No.: RP01974 **Recombinant**

Species	Gene ID	Swiss Prot
Human	1758	O13316

C-6His

DMP1;Dentin matrix acidic phosphoprotein 1; DMP-1; Dentin matrix protein 1

Source	Purification
HEK293 cells	≥ 90% as determined by reducing SDS-PAGE.

Calculated MW	Observed MW
54.796 kDa	18-25 KDa

< 0.01 EU/μg of the protein by LAL method.

Lyophilized from 0.22µm filtered solution
in PBS (pH 7.4).

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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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.

Recombinant Human DMP1 Protein

Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

Store at -20°C
Avoid repeated freeze/thaw cycles.

For your safety and health, please wear a lab coat and disposable gloves for handling.