# Recombinant Human DMP1 Protein (His Tag)

**Catalog No.** PKSH032347

***Note:*** Centrifuge before opening to ensure complete recovery of vial contents.

## Description

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|---|---|
| **Synonyms** | Dentin Matrix Acidic Phosphoprotein 1;DMP-1;Dentin Matrix Protein 1;DMP1;ARHP;ARHR |
| **Species** | Human |
| **Expression Host** | HEK293 Cells |
| **Sequence** | Lys17-Tyr513 |
| **Accession** | Q13316 |
| **Calculated Molecular Weight** | 55.0 kDa |
| **Observed molecular weight** | 45-120 kDa |
| **Tag** | C-His |
| **Bioactivity** | Not validated for activity |

## Properties

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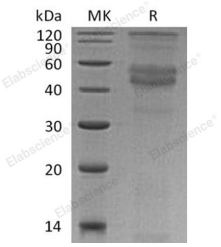
|---|---|
| **Purity** | > 95 % as determined by reducing SDS-PAGE. |
| **Endotoxin** | < 1.0 EU per μg of the protein as determined by the LAL method. |
| **Storage** | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months. |
| **Shipping** | This product is provided as lyophilized powder which is shipped with ice packs. |
| **Formulation** | Lyophilized from a 0.2 μm filtered solution of 20mM Histidine-HCl, 6% Trehalose, 4% Mannitol, 0.05% Tween 80, pH6.0.<br>Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.<br>Please refer to the specific buffer information in the printed manual. |
| **Reconstitution** | Please refer to the printed manual for detailed information. |

## Data




> 95 % as determined by reducing SDS-PAGE.

## Background

Dentin Matrix Acidic Phosphoprotein 1 (DMP-1) is an extracellular matrix protein and a member of the small integrin binding ligand N-linked glycoprotein family. DMP-1 is expressed in teeth particularly in odontoblast, ameloblast, and cementoblast. DMP-1 is critical for proper mineralization of bone and dentin. DMP-1 may have a dual function during osteoblast differentiation. In the nucleus of undifferentiated osteoblasts, the unphosphorylated form of DMP-1 acts as a transcriptional component for activation of osteoblast-specific genes like osteocalcin. During the osteoblast to osteocyte transition phase, DMP-1 is phosphorylated and exported into the extracellular matrix, where it regulates nucleation of hydroxyapatite. DMP-1 mutations have also been shown to cause rickets hypophosphatemic autosomal recessive type 1 (ARHR1).



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