Recombinant Human DMP1 Protein (His Tag)

Catalog Number: PKSH030969

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

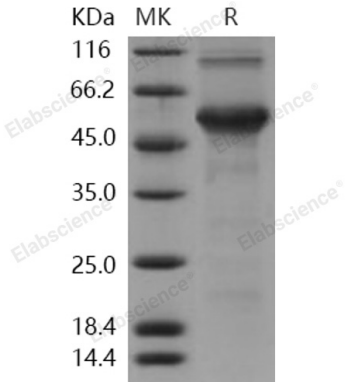
Description

Species	Human
Source	HEK293 Cells-derived Human DMP1 protein Met 1-Tyr 513, with an C-terminal His
Calculated MW	55.4 kDa
Observed MW	53 kDa
Accession	Q13316-1
Bio-activity	Measured by its ability to bind human CFH in a functional ELISA.

Properties

Purity	> 85 % 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 sterile PBS, pH 7.4 Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 85 % as determined by reducing SDS-PAGE.

Background

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.

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