

DMP-1 Protein, Human (HEK293, His)

Cat. No.:	HY-P70105
Synonyms:	rHuDentin matrix acidic phosphoprotein 1/DMP-1, His; Dentin Matrix Acidic Phosphoprotein 1; DMP-1; Dentin Matrix Protein 1; DMP1
Species:	Human
Source:	HEK293
Accession:	Q13316 (L17-Y513)
Gene ID:	1758
Molecular Weight:	53-90 kDa

PROPERTIES

AA Sequence

L P V T R Y Q N N E	S E D S E E W K G H	L A Q A P T P P L E	S S E S S E G S K V
S S E E Q A N E D P	S D S T Q S E E G L	G S D D H Q Y I Y R	L A G G F S R S T G
K G G D D K D D D E	D D S G D D T F G D	D D S G P G P K D R	Q E G G N S R L G S
D E D S D D T I Q A	S E E S A P Q G Q D	S A Q D T T S E S R	E L D N E D R V D S
K P E G G D S T Q E	S E S E E H W V G G	G S D G E S S H G D	G S E L D D E G M Q
S D D P E S I R S E	R G N S R M N S A G	M K S K E S G E N S	E Q A N T Q D S G G
S Q L L E H P S R K	I F R K S R I S E E	D D R S E L D D N N	T M E E V K S D S T
E N S N S R D T G L	S Q P R R D S K G D	S Q E D S K E N L S	Q E E S Q N V D G P
S S E S S Q E A N L	S S Q E N S S E S Q	E E V V S E S R G D	N P D P T T S Y V E
D Q E D S D S S E E	D S S H T L S H S K	S E S R E E Q A D S	E S S E S L N F S E
E S P E S P E D E N	S S S Q E G L Q S H	S S S A E S Q S E E	S H S E E D D S D S
Q D S S R S K E D S	N S T E S K S S S E	E D G Q L K N I E I	E S R K L T V D A Y
H N K P I G D Q D D	N D C Q D G Y		

Appearance

Lyophilized powder.

Formulation

Lyophilized from a 0.2 µm filtered solution of 20 mM Histidine-HCl, 6% Trehalose, 4% Mannitol, 0.05% Tween 80, pH 6.0.

Endotoxin Level

<1 EU/µg, determined by LAL method.

Reconstitution

It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O.

Storage & Stability

Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

DMP-1 Protein appears to exhibit a dual function during osteoblast differentiation. In the nucleus of undifferentiated osteoblasts, its unphosphorylated form functions as a transcriptional component, activating osteoblast-specific genes such as osteocalcin. As osteoblasts transition to osteocytes, DMP-1 undergoes phosphorylation and is subsequently exported into the extracellular matrix. In this extracellular environment, it plays a regulatory role in the nucleation of hydroxyapatite, suggesting its involvement in the mineralization process. DMP-1's intricate functions underscore its significance in the molecular events that govern osteoblast differentiation and bone formation. Notably, DMP-1 interacts with importin alpha, adding a layer of complexity to its cellular dynamics and potential regulatory mechanisms.

Caution: Product has not been fully validated for medical applications. For research use only.

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