

DMP1 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP18965a**Specification**

DMP1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession [Q13316](#)

DMP1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 1758

Other Names

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

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

DMP1 Antibody (N-term) Blocking Peptide - Protein Information

Name DMP1

Function

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.

Cellular Location

Nucleus. Cytoplasm. Secreted, extracellular space, extracellular matrix. Note=In proliferating preosteoblasts it is nuclear, during early maturation stage is cytoplasmic and in mature osteoblast localizes in the mineralized matrix. Export from the nucleus of differentiating osteoblast is triggered by the release of calcium from intracellular stores followed by a massive influx of this pool of calcium into the nucleus

Tissue Location

Expressed in tooth particularly in odontoblast, ameloblast and cementoblast

DMP1 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

DMP1 Antibody (N-term) Blocking Peptide - Images

DMP1 Antibody (N-term) Blocking Peptide - Background

Dentin matrix acidic phosphoprotein 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. The protein contains a large number of acidic domains, multiple phosphorylation sites, a functional arg-gly-aspartic acid 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 the protein becomes phosphorylated and is exported to the extracellular matrix, where it orchestrates mineralized matrix formation. Mutations in the gene are known to cause autosomal recessive hypophosphatemia, a disease that manifests as rickets and osteomalacia. The gene structure is conserved in mammals. Two transcript variants encoding different isoforms have been described for this gene.

DMP1 Antibody (N-term) Blocking Peptide - References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010) Joslyn, G., et al. Alcohol. Clin. Exp. Res. 34(5):800-812(2010) Turan, S., et al. Bone 46(2):402-409(2010) Pereira, R.C., et al. Bone 45(6):1161-1168(2009) Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)