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DMP4 Antibody (C-term) Blocking peptide

Synthetic peptide
Catalog # BP10983b

Specification

DMP4 Antibody (C-term) Blocking peptide - Product Information

Primary Accession Q8IXL6

DMP4 Antibody (C-term) Blocking peptide - Additional Information

Gene ID 56975

Other Names
Extracellular serine/threonine protein kinase FAM20C, Dentin matrix protein 4, DMP-4, Golgi-enriched fraction casein kinase, GEF-CK, Protein FAM20C, FAM20C, DMP4

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.

DMP4 Antibody (C-term) Blocking peptide - Protein Information

Name FAM20C (HGNC:22140)

Function
Golgi serine/threonine protein kinase that phosphorylates secretory pathway proteins within Ser-x-Glu/pSer motifs and plays a key role in biomineralization of bones and teeth (PubMed:22582013, PubMed:23754375, PubMed:25789606). Constitutes the main protein kinase for extracellular proteins, generating the majority of the extracellular phosphoproteome (PubMed:26091039). Mainly phosphorylates proteins within the Ser-x-Glu/pSer motif, but also displays a broader substrate specificity (PubMed:26091039). Phosphorylates ERO1A, enhancing its activity which is required to maintain endoplasmic reticulum redox homeostasis and for oxidative protein folding (PubMed:29858230, PubMed:34349020). During endoplasmic reticulum stress, phosphorylates P4HB/PDIA1 which induces a functional switch, causing P4HB to change from an oxidoreductase to a molecular chaperone (PubMed:32149426). This is

critical to maintain ER proteostasis and reduce cell death under ER stress (PubMed:32149426). Phosphorylation of P4HB also promotes its interaction with ERN1, leading to reduced activity of ERN1, a key sensor for the endoplasmic reticulum unfolded protein response (PubMed:32149426). Required for osteoblast differentiation and mineralization (PubMed:34349020). Phosphorylates casein as well as a number of proteins involved in biomineralization such as AMELX, AMTN, ENAM and SPP1/OPN (PubMed:22582013, PubMed:25789606, PubMed:34349020). In addition to its role in biomineralization, also plays a role in lipid homeostasis, wound healing and cell migration and adhesion (PubMed:26091039).

Cellular Location
Golgi apparatus membrane; Single-pass type II membrane protein. Secreted. Endoplasmic reticulum. Note=Resides in the Golgi apparatus membrane and is secreted following propeptide cleavage (PubMed:34349020). Retained in the endoplasmic reticulum (ER) in response to ER stress where it phosphorylates P4HB (PubMed:32149426)

Tissue Location
Widely expressed..

DMP4 Antibody (C-term) Blocking peptide - Protocols

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

- Blocking Peptides

DMP4 Antibody (C-term) Blocking peptide - Images

DMP4 Antibody (C-term) Blocking peptide - Background

Calcium-binding protein which may play a role in dentin mineralization (By similarity).

DMP4 Antibody (C-term) Blocking peptide - References

Simpson, M.A., et al. Clin. Genet. 75(3):271-276(2009)Simpson, M.A., et al. Am. J. Hum. Genet. 81(5):906-912(2007)Hao, J., et al. J. Biol. Chem. 282(21):15357-15365(2007)Nalbant, D., et al. BMC Genomics 6 (1), 11 (2005) :