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Mouse Enpp1 Blocking Peptide (N-term)

Synthetic peptide

Catalog # BP19754a

Specification

Mouse Enpp1 Blocking Peptide (N-term) - Product Information

Primary Accession P06802

Mouse Enpp1 Blocking Peptide (N-term) - Additional Information

Gene ID 18605

Other Names
Ectonucleotide pyrophosphatase/phosphodiesterase family member 1, E-NPP 1, Lymphocyte antigen 41, Ly-41, Phosphodiesterase I/nucleotide pyrophosphatase 1, Plasma-cell membrane glycoprotein PC-1, Alkaline phosphodiesterase I, Nucleotide pyrophosphatase, NPPase, Enpp1, Npps, Pc1, Pdnp1

Target/Specificity
The synthetic peptide sequence is selected from aa 44-57 of MOUSE Enpp1

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.

Mouse Enpp1 Blocking Peptide (N-term) - Protein Information

Name Enpp1 {ECO:0000303|PubMed:23027977,

Mouse Enpp1 Blocking Peptide (N-term) - Background

Involved primarily in ATP hydrolysis at the plasma membrane. Plays a role in regulating pyrophosphate levels, and functions in bone mineralization and soft tissue calcification. In vitro, has a broad specificity, hydrolyzing other nucleoside 5' triphosphates such as GTP, CTP, TTP and UTP to their corresponding monophosphates with release of pyrophosphate and diadenosine polyphosphates, and also 3',5'-cAMP to AMP. May also be involved in the regulation of the availability of nucleotide sugars in the endoplasmic reticulum and Golgi, and the regulation of purinergic signaling. Appears to modulate insulin sensitivity (By similarity).

ECO:0000312|MGI:MGI:97370}

Function

Nucleotide pyrophosphatase that generates diphosphate (PPi) and functions in bone mineralization and soft tissue calcification by regulating pyrophosphate levels (PubMed:9662402, PubMed:10352096, PubMed:11004006, PubMed:12082181, PubMed:22510396, PubMed:25260930). PPi inhibits bone mineralization and soft tissue calcification by binding to nascent hydroxyapatite crystals, thereby preventing further growth of these crystals (PubMed:9662402, PubMed:10352096, PubMed:11004006, PubMed:12082181, PubMed:19419305, PubMed:22510396, PubMed:25260930, PubMed:25479107, PubMed:26910915, PubMed:<a href="http://www.uniprot.org/ci

tations/30111653"
target="_blank">30111653).
Preferentially hydrolyzes ATP, but can also
hydrolyze other nucleoside 5' triphosphates
such as GTP, CTP, TTP and UTP to their
corresponding monophosphates with
release of pyrophosphate and diadenosine
polyphosphates, and also 3',5'-cAMP to AMP
(PubMed:<a href="http://www.uniprot.org/c
itations/11027689"
target="_blank">11027689,
PubMed:<a href="http://www.uniprot.org/ci
tations/1647027"
target="_blank">1647027,
PubMed:<a href="http://www.uniprot.org/ci
tations/23027977"
target="_blank">23027977,
PubMed:<a href="http://www.uniprot.org/ci
tations/8223581"
target="_blank">8223581). May also
be involved in the regulation of the
availability of nucleotide sugars in the
endoplasmic reticulum and Golgi, and the
regulation of purinergic signaling
(PubMed:<a href="http://www.uniprot.org/c
itations/1647027"
target="_blank">1647027). Inhibits
ectopic joint calcification and maintains
articular chondrocytes by repressing
hedgehog signaling; it is however unclear
whether hedgehog inhibition is direct or
indirect (PubMed:<a href="http://www.unip
rot.org/citations/30111653"
target="_blank">30111653). Appears
to modulate insulin sensitivity (By
similarity). Also involved in melanogenesis
(By similarity). Also able to hydrolyze
2'-3'-cGAMP (cyclic GMP-AMP), a second
messenger that activates TMEM173/STING
and triggers type-I interferon production
(PubMed:<a href="http://www.uniprot.org/c
itations/25344812"
target="_blank">25344812).
2'-3'-cGAMP degradation takes place in the
lumen or extracellular space, and not in the
cytosol where it is produced; the role of
2'-3'-cGAMP hydrolysis is therefore unclear
(By similarity). Not able to hydrolyze the
2'-3'-cGAMP linkage isomer 3'-3'-cGAMP (By
similarity).

Cellular Location
[Ectonucleotide
pyrophosphatase/phosphodiesterase family
member 1]: Cell membrane; Single-pass
type II membrane protein. Basolateral cell
membrane; Single-pass type II membrane

protein. Note=Targeted to the basolateral membrane in polarized epithelial cells and in hepatocytes, and to matrix vesicles in osteoblasts.

Tissue Location
Selectively expressed on the surface of antibody- secreting cells (PubMed:3104326). Expressed in osteocytes and osteoclasts (PubMed:25260930).

Mouse Enpp1 Blocking Peptide (N-term) - Protocols

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

- Blocking Peptides