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Product datasheet

Recombinant Human ENPP1 protein ab159083

1 Image

Overview

Product name	Recombinant Human ENPP1 protein
Protein length	Full length protein

Description

Nature	Recombinant
Source	Wheat germ
Amino Acid Sequence	
Species	Human
Sequence	MDVGEEPLEKAARARTAKDPNTYKVLSLVLSVCVLTTI LGCIFGLKPSCA KEVKSCKGRCFERTFGNCRCDAACVELGNCCLDYQE TCIEPEHIWTCNKF RCGEKRLTRSLCACSDDCKDKGDCCINYSSVCQGEK SWVEEPCESINEPQ CPAGFETPPTLLFSLDGFRAEYLHTWGGLLPVISKLKK CGTYTKNMRPVY PTKTFPNHYSIVTGLYPESHGIIDNKMYDPKMNASFSLK SKEKFNPEWYK GEPIWVTAKYQGLKSGTFFWPGSDVEINGIFPDIYKMYN GSVPFEERILA VLQWLQLPKDERPHFYTLYLEEPDSSGHSYGPVSSEV IKALQRVDGMVGM LMDGLKELNLHRCLNLILISDHGMEQGSCKKYIYLNKYL GDVKNIKVIYG PAARLRPSDVPDKYYSFNYEGIARNLSCREPNQHFKP YLKHFLPKRLHFA KSDRIEPLTFYLDPQWQLALNPSERKYCGSGFHGSDN VFSNMQALFVGYG PGFKHGIEADTFENIEVYNLMCDLLNLTPAPNNGTHGS LNHLLKNPVYTP KHPKEVHPLVQCPFTRNPRDNLGCSCNPSILPIEDFQT QFNLTVAEEKII KHETLPYGRPRVLQKENTICLLSQHQFMSGYSQDILMP LWTSYTVDRNDS

FSTEDFSNCLYQDFRIPLSPVHKCSFYKNNTKVSYGFL
SPPQLNKNSSGI
YSEALLTTNIVPMYQSFQVIWRYFHDTLLRKYAEERNGV
NVVSGPVFDFD
YDGRCDSLENLRQKRRVIRNQEILIPTHFFIVLTSCKDTS
QTPLHCENLD
TLAFILPHRTDNSESCVHGKHDSSWVEELLMLHRARIT
DVEHITGLSFYQ QRKEPVSDILKLKTHLPTFSQED

Amino acids	1 to 873
Tags	proprietary tag N-Terminus

Specifications

Our Abpromise guarantee covers the use of **ab159083** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	ELISA Western blot
Form	Liquid
Additional notes	Protein concentration is above or equal to 0.05 mg/ml.

Preparation and Storage

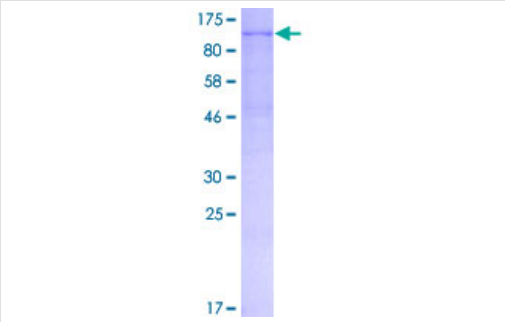
Stability and Storage	Shipped on dry ice. Upon delivery aliquot and store at -80ºC. Avoid freeze / thaw cycles. pH: 8.00 Constituents: 0.31% Glutathione, 0.79% Tris HCl

General Info

Function	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.
Tissue specificity	Expressed in plasma cells and also in a number of non-lymphoid tissues, including the distal convoluted tubule of the kidney, chondrocytes and epididymis.
Involvement in disease	Defects in ENPP1 are a cause of increased susceptibility for ossification of the posterior longitudinal ligament of the spine (OPLL) [MIM:602475]. OPLL is a common form of human myelopathy with a prevalence of as much as 4% in a variety of ethnic groups. Defects in ENPP1 are the cause of arterial calcification of infancy, generalized, type 1 (GACI1) [MIM:208000]. A severe autosomal recessive disorder characterized by calcification of the internal elastic lamina of muscular arteries and stenosis due to myointimal proliferation. The disorder is often fatal within the first 6 months of life because of myocardial ischemia resulting in refractory heart failure. Defects in ENPP1 are associated with obesity, glucose intolerance, and type II diabetes non-

	insulin dependent (NIDDM) [MIM:125853]. Defects in ENPP1 are the cause of rickets hypophosphatemic autosomal recessive type 2 (ARHR2) [MIM:613312]. ARHR2 is a hereditary form of hypophosphatemic rickets, a disorder of proximal renal tubule function that causes phosphate loss, hypophosphatemia and skeletal deformities, including rickets and osteomalacia unresponsive to vitamin D. Symptoms are bone pain, fractures and growth abnormalities.
Sequence similarities	Belongs to the nucleotide pyrophosphatase/phosphodiesterase family. Contains 2 SMB (somatomedin-B) domains.
Domain	The di-leucine motif is required for basolateral targeting in epithelial cells, and for targeting to matrix vesicles derived from mineralizing cells.
Post-translational modifications	Autophosphorylated as part of the catalytic cycle of phosphodiesterase/pyrophosphatase activity. N-glycosylated. It has been suggested that the active SMB domain may be permitted considerable disulfide bond heterogeneity or variability, thus two alternate disulfide patterns based on 3D structures are described with 1 disulfide bond conserved in both.
Cellular localization	Membrane. Basolateral cell membrane. Targeted to the basolateral membrane in polarized epithelial cells and in hepatocytes, and to matrix vesicles in osteoblasts. In bile duct cells and cancer cells, located to the apical cytoplasmic side.

Images



SDS-PAGE - Recombinant Human ENPP1 protein (ab159083)

ab159083 on a 12.5% SDS-PAGE stained with Coomassie Blue.

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