

ENPP-1 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P700709
Synonyms:	E-NPP 1; NPPase; ENPP1; NPPS; PC1; PDNP1; Ly-41 Antigen; M6S1; M6S1NPP1; NPP1; PCA1; PCA1ARHR2
Species:	Mouse
Source:	HEK293
Accession:	P06802-1 (K80-D906)
Gene ID:	18605
Molecular Weight:	100-110 kDa

PROPERTIES

AA Sequence

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

Biological Activity

The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.

Appearance

Lyophilized powder.

Formulation

Lyophilized from a 0.22 μ m filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.

Endotoxin Level

<1 EU/ μ g, determined by LAL method.

Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
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

The ENPP-1 protein, a nucleotide pyrophosphatase, plays a crucial role in bone mineralization and soft tissue calcification by regulating pyrophosphate levels. It generates diphosphate (PPi), which inhibits the mineralization of bone and calcification of soft tissues by binding to nascent hydroxyapatite crystals, preventing their further growth. ENPP-1 exhibits preferential hydrolysis of ATP but can also hydrolyze other nucleoside 5' triphosphates and diadenosine polyphosphates. Additionally, it participates in the regulation of nucleotide sugars in the endoplasmic reticulum and Golgi, impacting purinergic signaling. The protein inhibits ectopic joint calcification and maintains articular chondrocytes by repressing hedgehog signaling, although the direct or indirect nature of hedgehog inhibition remains unclear. ENPP-1 is implicated in modulating insulin sensitivity and melanogenesis. Notably, it can hydrolyze 2',3'-cGAMP, a second messenger activating TMEM173/STING and triggering type-I interferon production, though the precise role of this hydrolysis in the extracellular space is not fully understood. However, ENPP-1 is unable to hydrolyze the 2',3'-cGAMP linkage isomer 3',3'-cGAMP.

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

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