

**Goat Anti-ENPP1 / PC1 Antibody**  
**Peptide-affinity purified goat antibody**  
**Catalog # AF1370a****Specification**

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**Goat Anti-ENPP1 / PC1 Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">P22413</a>
Other Accession	<a href="#">NP_006199</a> , <a href="#">5167</a>
Reactivity	Human
Predicted	Mouse, Rat
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	104924

**Goat Anti-ENPP1 / PC1 Antibody - Additional Information****Gene ID** 5167**Other Names**

Ectonucleotide pyrophosphatase/phosphodiesterase family member 1, E-NPP 1, Membrane component chromosome 6 surface marker 1, Phosphodiesterase I/nucleotide pyrophosphatase 1, Plasma-cell membrane glycoprotein PC-1, Alkaline phosphodiesterase I, 3.1.4.1, Nucleotide pyrophosphatase, NPPase, 3.6.1.9, ENPP1, M6S1, NPPS, PC1, PDNP1

**Format**

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Goat Anti-ENPP1 / PC1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Goat Anti-ENPP1 / PC1 Antibody - Protein Information****Name** ENPP1 ([HGNC:3356](#))**Function**

Nucleotide pyrophosphatase that generates diphosphate (PPi) and functions in bone mineralization and soft tissue calcification by regulating pyrophosphate levels (By similarity). PPi inhibits bone mineralization and soft tissue calcification by binding to nascent hydroxyapatite crystals, thereby

preventing further growth of these crystals (PubMed:<a href="http://www.uniprot.org/citations/11004006" target="\_blank">11004006</a>). Preferentially hydrolyzes ATP, but can also hydrolyze other nucleoside 5' triphosphates such as GTP, CTP and UTP to their corresponding monophosphates with release of pyrophosphate, as well as diadenosine polyphosphates, and also 3',5'-cAMP to AMP (PubMed:<a href="http://www.uniprot.org/citations/27467858" target="\_blank">27467858</a>, PubMed:<a href="http://www.uniprot.org/citations/8001561" target="\_blank">8001561</a>, PubMed:<a href="http://www.uniprot.org/citations/25344812" target="\_blank">25344812</a>, PubMed:<a href="http://www.uniprot.org/citations/28011303" target="\_blank">28011303</a>, PubMed:<a href="http://www.uniprot.org/citations/35147247" target="\_blank">35147247</a>). 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/citations/27467858" target="\_blank">27467858</a>, PubMed:<a href="http://www.uniprot.org/citations/8001561" target="\_blank">8001561</a>). Inhibits ectopic joint calcification and maintains articular chondrocytes by repressing hedgehog signaling; it is however unclear whether hedgehog inhibition is direct or indirect (By similarity). Appears to modulate insulin sensitivity and function (PubMed:<a href="http://www.uniprot.org/citations/10615944" target="\_blank">10615944</a>). Also involved in melanogenesis (PubMed:<a href="http://www.uniprot.org/citations/28964717" target="\_blank">28964717</a>). 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/citations/25344812" target="\_blank">25344812</a>). 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 (PubMed:<a href="http://www.uniprot.org/citations/25344812" target="\_blank">25344812</a>). Not able to hydrolyze the 2',3'-cGAMP linkage isomer 3'-3'-cGAMP (PubMed:<a href="http://www.uniprot.org/citations/25344812" target="\_blank">25344812</a>).

#### 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 (PubMed:11598187). In bile duct cells and cancer cells, located to the apical cytoplasmic side (PubMed:11598187)

#### Tissue Location

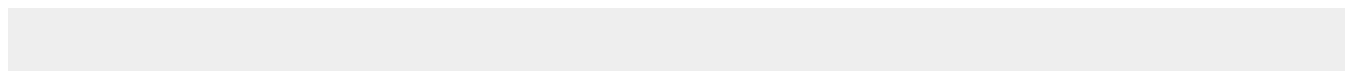
Expressed in plasma cells and also in a number of non-lymphoid tissues, including the distal convoluted tubule of the kidney, chondrocytes and epididymis (PubMed:9344668). Expressed in melanocytes but not in keratinocytes (PubMed:28964717)

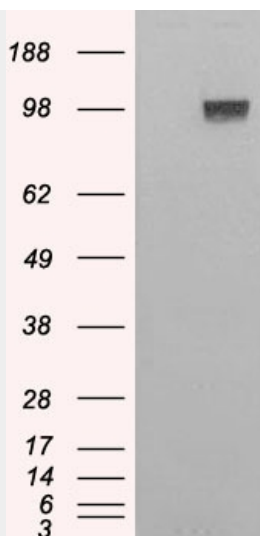
### Goat Anti-ENPP1 / PC1 Antibody - Protocols

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

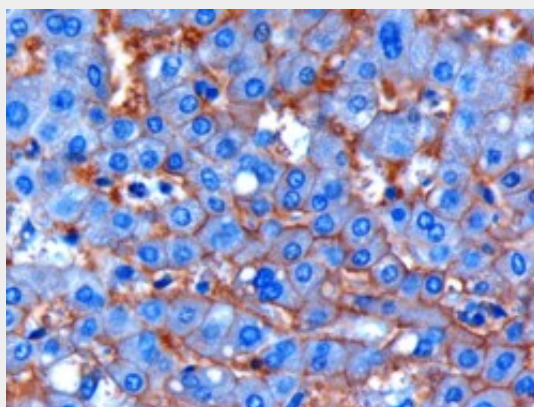
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Goat Anti-ENPP1 / PC1 Antibody - Images





HEK293 overexpressing Human ENPP1 (RC209222) and probed with AF1370a (mock transfection in first lane), tested by Origene.



AF1370a (1 µg/ml) staining of paraffin embedded Human Liver. Microwaved antigen retrieval with citrate buffer pH 6, HRP-staining.

#### Goat Anti-ENPP1 / PC1 Antibody - Background

This gene is a member of the ecto-nucleotide pyrophosphatase/phosphodiesterase (ENPP) family. The encoded protein is a type II transmembrane glycoprotein comprising two identical disulfide-bonded subunits. This protein has broad specificity and cleaves a variety of substrates, including phosphodiester bonds of nucleotides and nucleotide sugars and pyrophosphate bonds of nucleotides and nucleotide sugars. This protein may function to hydrolyze nucleoside 5' triphosphates to their corresponding monophosphates and may also hydrolyze diadenosine polyphosphates. Mutations in this gene have been associated with 'idiopathic' infantile arterial calcification, ossification of the posterior longitudinal ligament of the spine (OPLL), and insulin resistance.

#### Goat Anti-ENPP1 / PC1 Antibody - References

[Association and meta-analysis of ENPP1 K121Q with type 2 diabetes in Han Chinese.] Wang M, et al. Yi Chuan, 2010 Aug. PMID 20709678.

Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.

Candidate gene association study conditioning on individual ancestry in patients with type 2

diabetes and metabolic syndrome from Mexico City. Cruz M, et al. Diabetes Metab Res Rev, 2010 May. PMID 20503258.

Family-based study of association between ENPP1 genetic variants and craniofacial morphology.

Ermakov S, et al. Ann Hum Biol, 2010 May 6. PMID 20446819.

[ENPP1 K121Q polymorphism and ischemic heart disease in diabetic patients] Moehlecke M, et al. Arq Bras Cardiol, 2010 Feb. PMID 20428609.