Revision 1

#2070 Store at -20C

ENPP1 Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H	Endogenous	140	Rabbit	#P22413	5167

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

ENPP1 Antibody detects endogenous levels of total ENPP1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gln815 of human ENPP1. Antibodies were purified by protein A and peptide affinity chromatography.

Background

Ectonucleotide pyrophosphatase-phosphodiesterase 1 (ENPP1) is a single-pass, type II transmembrane protein primarily involved in ATP hydrolysis at the plasma membrane. Targeting of ENPP1 to the basolateral cell surface relies on the presence of a carboxy-terminal di-leucine-based signal (1). ENPP1 plays important roles in bone mineralization and soft tissue calcification (2-5). Mutations in the corresponding *ENPP1* gene cause generalized arterial calcification in infancy (GACI) and idiopathic infantile arterial calcification (IIAC) (6,7). ENPP1 inhibits insulin receptor function and overexpression of this enzyme causes insulin resistance and glucose intolerance in mice (8,9). Genetic variants of ENPP1 have been associated with obesity and type 2 diabetes (10-12).

Background References

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2. Okawa, A. et al. (1998) *Nat Genet* 19, 271-3.
3. Nakamura, I. et al. (1999) *Hum Genet* 104, 492-7.
4. Harmey, D. et al. (2004) *Am J Pathol* 164, 1199-209.
5. Hessle, L. et al. (2002) *Proc Natl Acad Sci USA* 99, 9445-9.
6. Rutsch, F. et al. (2003) *Nat Genet* 34, 379-81.
7. Ruf, N. et al. (2005) *Hum Mutat* 25, 98.
8. Dong, H. et al. (2005) *Diabetes* 54, 367-72.
9. Maddux, B.A. et al. (2006) *Am J Physiol Endocrinol Metab* 290, E746-9.
10. Meyre, D. et al. (2005) *Nat Genet* 37, 863-7.
11. Keene, K.L. et al. (2008) *Diabetes* 57, 1057-62.
12. Bacci, S. et al. (2007) *Curr Opin Clin Nutr Metab Care* 10, 403-9.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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