10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PPT1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2538a

Product Information

Application	WB, E
Primary Accession	P50897
Other Accession	Q8HXW6, P45478
Reactivity	Human, Mouse
Predicted	Bovine, Monkey
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB4706
Calculated MW	34193
Antigen Region	32-63

Additional Information

Gene ID	5538
Other Names	Palmitoyl-protein thioesterase 1, PPT-1, Palmitoyl-protein hydrolase 1, PPT1, PPT
Target/Specificity	This PPT1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 32-63 amino acids from the N-terminal region of human PPT1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PPT1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PPT1
Synonyms	CLN1 {ECO:0000303|PubMed:19941651}, PPT

Function	Has thioesterase activity against fatty acid thioesters with 14 -18 carbons, including palmitoyl-CoA, S-palmitoyl-N- acetylcysteamine, and palmitoylated proteins (PubMed:12855696, PubMed:26731412, PubMed:8816748). In contrast to PPT2, PPT1 can hydrolyze palmitoylated proteins and palmitoylcysteine (PubMed:12855696).
Cellular Location	Lysosome. Secreted Golgi apparatus. Endoplasmic reticulum

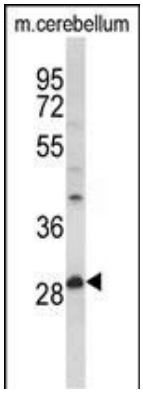
Background

Palmitoyl-protein thioesterase-1 (PPT1) is a lysosomal hydrolase that removes long-chain fatty acyl groups from modified cysteine residues in proteins. Mutations in PPT1 have been found to cause the infantile form of neuronal ceroid lipofuscinosis (INCL), and an animal model has been developed.1 The deduced PPT2 protein contains 302 amino acids, including a 27-amino acid leader peptide, a sequence motif characteristic of many thioesterases and lipases, and 5 potential N-linked glycosylation sites.2 PPT2 shares 18% amino acid identity with PPT1. Northern blot analysis detected a predominant 2.0-kb PPT2 transcript in the human tissues examined, with the highest expression in skeletal muscle; variable amounts of 2.8- and 7.0-kb transcripts were also observed. Recombinant PPT2, like PPT1, possesses thioesterase activity and localizes to the lysosome. Since PPT2 could not substitute for PPT1 in correcting the metabolic defect in INCL cells and was unable to remove palmitate groups from palmitoylated proteins that are routinely used as substrates for PPT1it has been postulated that PPT2 possesses a different substrate specificity than PPT1.

References

Calero, G., et al., J. Biol. Chem. 278(39):37957-37964 (2003).
Hofmann, S.L., et al., Curr. Mol. Med. 2(5):423-437 (2002).
Weimer, J.M., et al., Neuromolecular Med. 1(2):111-124 (2002).
Lu, J.Y., et al., Proc. Natl. Acad. Sci. U.S.A. 93(19):10046-10050 (1996).
Crews, C.M., et al., Proc. Natl. Acad. Sci. U.S.A. 93(9):4316-4319 (1996).

Images



Western blot analysis of hPPT1-C46 (Cat. #AP2538a) in mouse cerebellum tissue lysates (35ug/lane).PPT1 (arrow) was detected using the purified Pab.