APG621Hu01 100μg
Active Palmitoyl Protein Thioesterase 1 (PPT1)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Asp28~Gly306
Tags: N-terminal His-tag
Purity: >80%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% Sarcosyl, 5%Trehalose .
Original Concentration: 200μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 6.2
Predicted Molecular Mass: 35.0kDa
Accurate Molecular Mass: 35kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8ºC for one month.
Aliquot and store at -80ºC for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

DPPAPLPLVIWHGMGDSCCNPLSMGAIKKMVEKKIPGIYVLSLEIGKTLMEDVENSFFLNVNS
QVTTVCQALAKDPKLQQGYNAMGFSQGGQFLRAVAQRCPSPPMINLISVGGQHQGVFGL
PRCPGESSHICDFIRKTLNAGAYSKVVQERLVQAEYWHDPIKEDVYRNHSIFLADINQERGIN
ESYKKNLMALKKFVMVKFLNDSIVDPVDSEWFGFYRSGQAKETIPLQETSLYTQDRLGLKEM
DNAGQLVFLATEGDHLQLSEEWFYAHIIPFLG

[ACTIVITY]

Palmitoyl Protein Thioesterase 1 (PPT1) is a lysosomal enzyme that removes palmitate groups from S-palmitoylated proteins, playing a crucial role in protein degradation and recycling. Mutations in the PPT1 gene cause infantile neuronal ceroid lipofuscinosis (CLN1 disease), a severe neurodegenerative lysosomal storage disorder characterized by vision loss, seizures, and cognitive decline. PPT1's thioesterase activity is essential for breaking down lipid-modified proteins in lysosomes, preventing toxic accumulation. It also influences synaptic function and neuronal survival, linking lipid metabolism to neurodegeneration.Besides,Tripeptidyl Peptidase I (TPP1) has been identified as an interactor of PPT1, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human PPT1 and recombinant mouse TPP1 . Briefly, biotin-linked PPT1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to TPP1-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μl stop solution to the wells and read at

450nm immediately. The binding activity of PPT1 and TPP1 was shown in Figure 1, the EC50 for this effect is 0.50μg/mL.

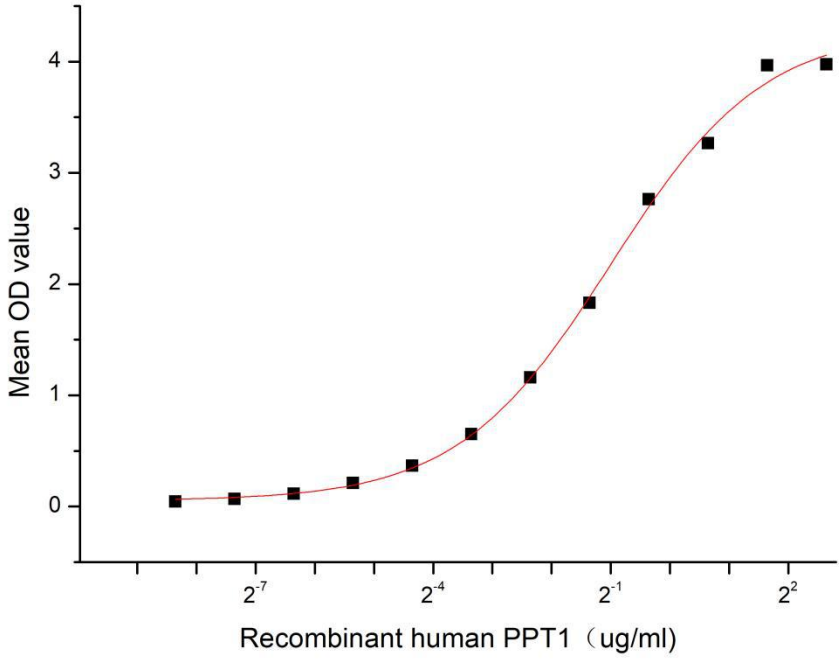

Figure 1. The binding activity of recombinant human PPT1 and recombinant mouse TPP1

[IDENTIFICATION]

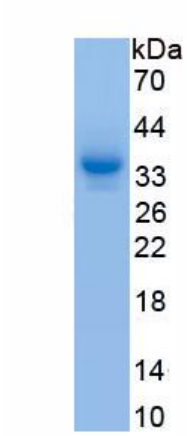

Figure 2. SDS-PAGE

Sample: Active recombinant PPT1, Human

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.