APH975Hu01 100μg
Active Glycosylphosphatidylinositol Specific Phospholipase D1 (GPLD1)
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: Met496~Asp840
Tags: N-terminal His-tag
Purity: >90%
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: 6.9
Predicted Molecular Mass: 40.6kDa
Accurate Molecular Mass: 41kDa 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]

MSSSP
NITISCQDIY CNLGWTLLAA DVNGDSEPDL VIGSPFAPGG GKQKGIVAAF
YSGPSLSDKE KLNVEAANWT VRGEEDFSWF GYSLHGVTVD NRTLLLVGSP
TWKNASRLGH LLHIRDEKKS LGRVYGYFPP NGQSWFTISG DKAMGKLGTS
LSSGHVLMNG TLKQVLLVGA PTYDDVSKVA FLTVTLHQGG ATRMYALTSD
AQPLLLSTFS GDRRFSRFGG VLHLSDLDDD GLDEIIMAAP LRIADVTSGL
IGGEDGRVYV YNGKETTLGD MTGKCKSWIT PCPEEKAQYV LISPEASSRF
GSSLITVRSK AKNQVVIAAG RSSLGARLSG ALHVYSLGSD

[ACTIVITY]

Glycosylphosphatidylinositol Specific Phospholipase D1 (GPLD1) is a secreted enzyme that cleaves glycosylphosphatidylinositol (GPI) anchors, releasing GPI-anchored proteins from cell membranes into circulation. Primarily synthesized in the liver, it plays key roles in lipid metabolism, inflammation, and neurogenesis. GPLD1's activity modulates the bioavailability of important GPI-anchored proteins like alkaline phosphatase and folate receptors. Studies link elevated GPLD1 levels to metabolic disorders and aging-related cognitive decline, while its neuroprotective effects are being investigated. The enzyme's structure contains catalytic domains essential for hydrolyzing GPI linkages, making it a potential therapeutic target for metabolic and neurological diseases.Besides,Alkaline Phosphatase, Tissue-nonspecific (ALPL) has been identified as an interactor of GPLD1, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human GPLD1 and recombinant human ALPL. Briefly, GPLD1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to ALPL-coated microtiter wells and incubated for 1h

at 37℃. Wells were washed with PBST and incubated for 1h with anti-GPLD1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant human GPLD1 and recombinant human ALPL was shown in Figure 1, the EC50 for this effect is 0.042μg/mL.

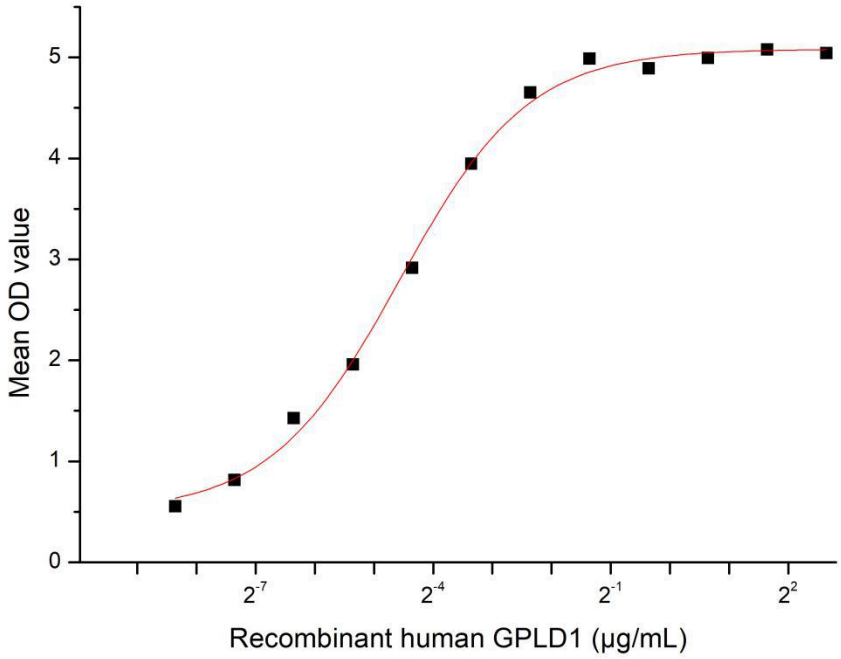

Figure 1. The binding activity of recombinant human GPLD1 and recombinant human ALPL

[IDENTIFICATION]

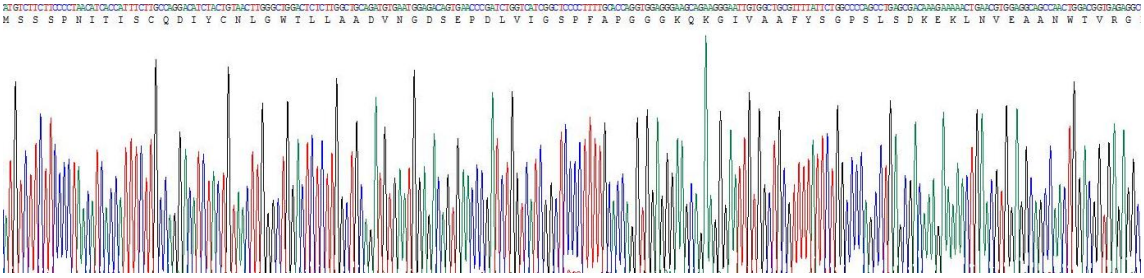

Figure 2. Gene Sequencing (extract)

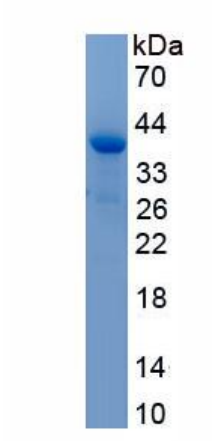

Figure 3. SDS-PAGE

Sample: Active recombinant GPLD1, 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.