

APA207Hu02 100µg

Active Alanine Aminotransferase (ALT)

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: Ile147~Phe263

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: 5.9

Predicted Molecular Mass: 14.2kDa

Accurate Molecular Mass: 14kDa 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 2-8°C for one month.

Aliquot and store at -80°C 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 37°C 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]

IPAD
PNNVFLSTGA SDAIVTVLKL LVAGEGHTRT GVLIPQYP LYSATLAELG
AVQVDYYLDE ERAWALDVAE LHRALGQARD HCRPRALCVI NPGNPTGQVQ
TRECIEAVIR FAF

[ACTIVITY]

Alanine Aminotransferase (ALT), also known as glutamate-pyruvate transaminase (GPT), is a cytoplasmic enzyme primarily found in hepatocytes. It plays a critical role in amino acid metabolism by catalyzing the transfer of an amino group between alanine and α -ketoglutarate, generating pyruvate and glutamate. ALT is widely recognized as a key clinical biomarker for liver health; its serum activity increases significantly during hepatocellular damage, such as in viral hepatitis, drug-induced liver injury, or fatty liver disease. Measurement of ALT levels in blood is a standard diagnostic tool to detect and monitor liver dysfunction. Besides, Albumin (ALB) has been identified as an interactor of ALT, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human ALT and recombinant human ALB. Briefly, ALT was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to ALB-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-ALT pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37°C, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50 μ L stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant human ALT and recombinant human ALB was shown in Figure 1, the

EC50 for this effect is 1.99 μ g/mL.

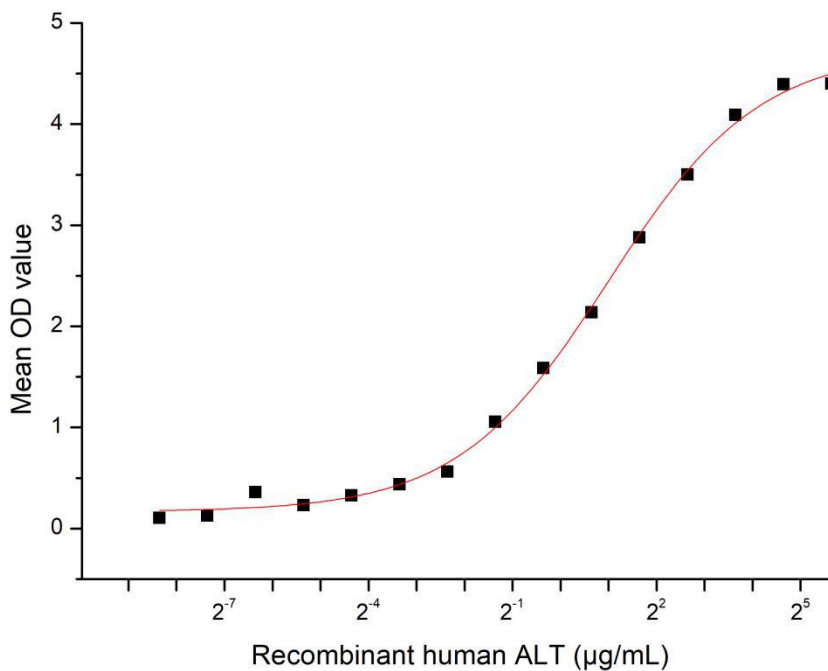


Figure 1. The binding activity of recombinant human ALT and recombinant human ALB

[IDENTIFICATION]

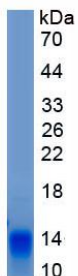


Figure 2. SDS-PAGE

Sample: Active recombinant ALT, 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.