APD862Hu01 100μg
Active Tyrosine Aminotransferase (TAT)
Organism Species: Homo sapiens (Human)
Instruction manual

FOR IN VITRO USE AND RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Cys221~Lys454
Tags: N-terminal His-tag
Purity: >96%
Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.05% sarcosyl and 5% trehalose.
Applications: Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 5.5
Predicted Molecular Mass: 30.0kDa
Accurate Molecular Mass: 33kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) 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 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]

CGSVFSKRHL QKILAVAARQ CVPILADEIY GDMVFSDCKY EPLATLSTDV PILSCGGLAK RWLVPGWRLG WILIHDRRDI FGNEIRDGLV KLSQRILGPC TIVQGALKSI LCRTPGEFYH NTLSFLKSNA DLCYGALAAI PGLRPVRPSG AMYLMVGIEM EHFPEFENDV EFTERLVAEQ SVHCLPATCF EYPNFIRVVI TVPEVMMLEA CSRIQEFCEQ HYHCAEGSQE ECDK

[ACTIVITY]

Tyrosine aminotransferase (TAT) is an enzyme present in the liver and catalyzes the conversion of tyrosine to 4-hydroxyphenylpyruvate. In humans, the tyrosine aminotransferase protein is encoded by the TAT gene. A deficiency of the enzyme in humans can result in what is known as Type II Tyrosinemia, wherein there is an abundance of tyrosine as a result of tyrosine failing to undergo an aminotransferase reaction to form 4-hydroxyphenylpyruvate. Tyrosine Aminotransferase as a dimer has two identical active sights. Lys280 is attached to PLP, which is held in place via two nonpolar amino acid side chains; phenylalanine and isoleucine (see thumbnail on right). The PLP is also held in place by hydrogen bonding to surrounding molecules mainly by its phosphate group. Besides, Heat Shock 70kDa Protein 8 (HSPA8) has been identified as an interactor of TAT, thus a binding ELISA assay was conducted to detect the interaction of recombinant human TAT and recombinant human HSPA8. Briefly, TAT were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to HSPA8-coated microtiter wells and incubated for 2h at 37℃. Wells were washed with PBST and incubated for 1h with anti-TAT pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated

and washed 3 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 TAT and HSPA8 was shown in Figure 1, and this effect was in a dose dependent manner.

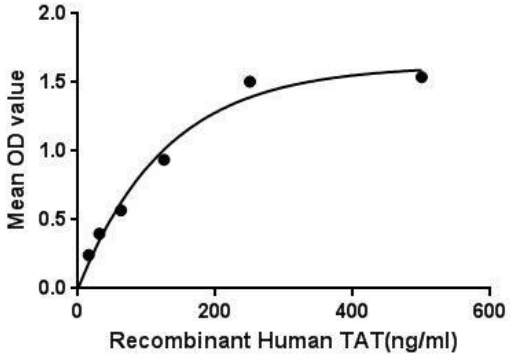

Figure 1. The binding activity of TAT with HSPA8.

[IDENTIFICATION]

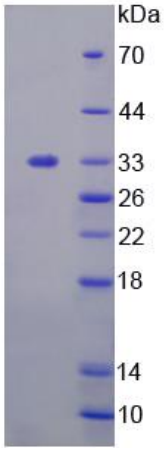

Figure 2. SDS-PAGE

Sample: Active recombinant TAT, Human

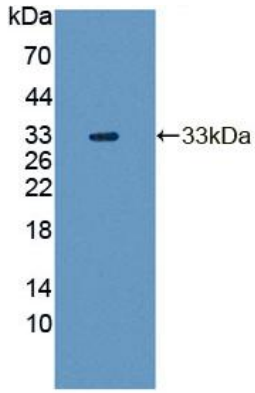

Figure 3. Western Blot

Sample: Recombinant TAT, Human;

Antibody: Rabbit Anti-Human TAT Ab (PAD862Hu01)