

**APC823Hu01 100µg**  
**Active Active Thymidine Kinase 1, Soluble (TK1)**  
**Organism Species: *Homo sapiens* (Human)**  
***Instruction manual***

FOR RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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1st Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Ser2~Asn234

**Tags:** Two N-terminal Tags, His-tag and GST-tag

**Purity:** >95%

**Endotoxin Level:** <1.0EU per 1µg (determined by the LAL method).

**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:** 8.9

**Predicted Molecular Mass:** 55.3kDa

**Accurate Molecular Mass:** 55kDa 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 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 ]**

```
SCINLPTVL PGSPSKTRGQ IQVILGPMFS GKSTELMRRV RRFQIAQYKC  
LVIKYAKDTR YSSSFCTHDR NTMEALPACL LRDVAQEALG VAVIGIDEGQ  
FFPDIVEFCE AMANAGKTVI VAALDGTFQR KPFGAILNLV PLAESVVKLT  
AVCMECFREA AYTKRLGTEK EVEVIGGADK YHSVCRLCYF KKASGQPAGP  
DNKENCVPG KPGEAVAARK LFAPQQILQC SPAN
```

## **[ ACTIVITY ]**

Thymidine kinase 1 (TK1), is a human thymidine kinase. Thymidine kinase has been making a growing impact in the cancer research community. It has been found that elevated blood serum levels of TK-1 correlates with metastatic capabilities of the cancer and thereby can be used to detect malignant types of cancer, furthermore TK-1 has been found to show up in blood serum even before clinical symptoms even start to show. Besides, Glyceraldehyde 3-phosphate dehydrogenase (GAPDH) has been identified as an interactor of TK1, thus a binding ELISA assay was conducted to detect the interaction of recombinant human TK1 and recombinant human GAPDH. Briefly, TK1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to GAPDH-coated microtiter wells and incubated for 2h at 37 °C . Wells were washed with PBST and incubated for 1h with anti-TK1 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°C . Finally, add 50µL stop solution to the wells and read at 450nm immediately. The binding activity of TK1 and GAPDH was shown in Figure 1, and this effect was in a dose dependent manner.

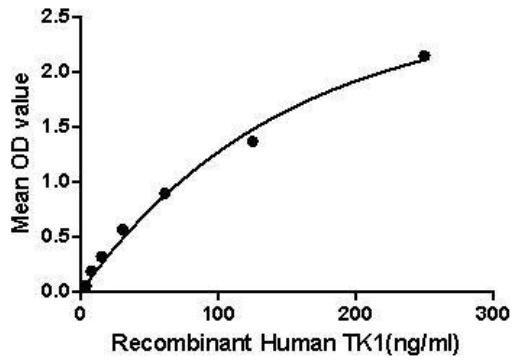


Figure 1. The binding activity of TK1 with GAPDH.

**[ IDENTIFICATION ]**

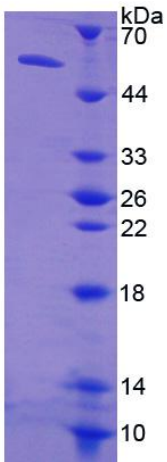
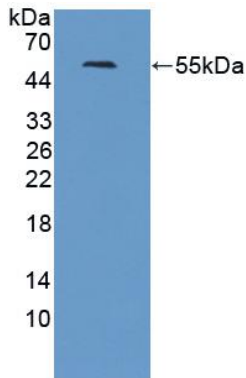


Figure 2. SDS-PAGE

Sample: Active recombinant TK1, Human



**Figure 3. Western Blot**

**Sample: Recombinant TK1, Human;**

**Antibody: Rabbit Anti-Human TK1 Ab (PAC823Hu01)**

**[ IMPORTANT NOTE ]**

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