

**APB773Mu01 100µg**  
**Active Transglutaminase 1, Keratinocyte (TGM1)**  
**Organism Species: *Mus musculus* (Mouse)**  
***Instruction manual***

FOR RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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1th Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Leu337~Arg607

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

**Purity:** >98%

**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:** 5.9

**Predicted Molecular Mass:** 60.3kDa

**Accurate Molecular Mass:** 60kDa 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 ]**

```
                                LIGN WTGDYSRGTN
PSAWGSVEI LLSYLRTGYS VPYGQCWFVA GVTTTVLRCL GFATRTVTNF
NSAHDTDTSL TMDIYFDENM KPLEHLNHDS VWNFHVWDC WMKRPDLPSC
FDGWQVVDAT PQETSSGIFC CGPCSVESVK NGLVYMKYDT PFIFAEVNSD
KVYWQRQDDG SFKIVYVEEK AIGTLIVTKA IHSNNREDIT HIYKHPEGSE
AERRAVEKAA AHGSKPNVYA TRDSAEDVAM QVEAQDAVMG QDLAVSVVLT
NRGSSRR
```

## **[ ACTIVITY ]**

Transglutaminase 1(TGM1) is an enzyme found in cells that make up the outermost layer of the skin (the epidermis). It can catalyze the addition of an alkyl group from an alkylamine to a glutamine residue of a protein, forming an alkylglutamine in the protein. TGM1 is involved in the formation of the cornified cell envelope, which is a structure that surrounds skin cells and helps form a protective barrier between the body and its environment. Besides, Synuclein Alpha (SNCa) has been identified as an interactor of TGM1, thus a binding ELISA assay was conducted to detect the interaction of recombinant mouse TGM1 and recombinant mouse SNCa. Briefly, TGM1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to SNCa-coated microtiter wells and incubated for 2h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-TGM1 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 TGM1 and SNCa was shown in Figure 1, and this effect was in a dose dependent manner.

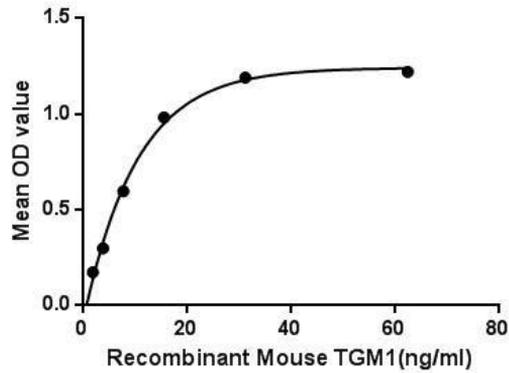


Figure 1. The binding activity of TGM1 with SNCa.

### [ IDENTIFICATION ]

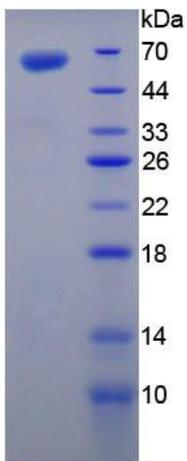
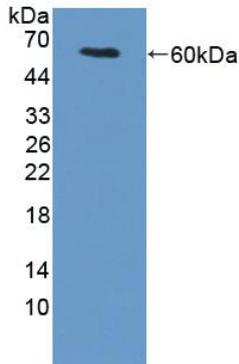


Figure 2. SDS-PAGE

Sample: Active recombinant TGM1, Mouse



**Figure 3. Western Blot**

**Sample: Recombinant TGM1, Mouse;**

**Antibody: Rabbit Anti-Mouse TGM1 Ab (PAB773Mu01)**

**[ 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.