

**APA658Ra01 100µg**  
**Active Glutathione S Transferase Mu 1 (GSTm1)**  
**Organism Species: Rattus norvegicus (Rat)**  
***Instruction manual***

FOR IN VITRO USE AND 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:** Met1~Lys218

**Tags:** N-terminal His-tag

**Purity:** >95%

**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:** 8.3

**Predicted Molecular Mass:** 27.2kDa

**Accurate Molecular Mass:** 27kDa 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 ]**

```
MPMILGYWNV RGLTHPIRLL LEYTDSSYEE KRYAMGDAPD YDRSQWLNEK  
FKLGLDFPNL PYLIDGSRKI TQSNAIMRYL ARKHHLCGET EEERIRADIV  
ENQVMDNRMQ LIMLCYNPDF EKQKPEFLKT IPEKMKLYSE FLGKRPWFAG  
DKVTYVDFLA YDILDQYHIF EPKCLDAFPN LKDFLARFEG LKKISAYMKS  
SRYLSTPIFS KLAQWSNK
```

## **[ ACTIVITY ]**

Glutathione S-transferase Mu 1 (GSTM1) belongs to the mu class. GSTM1 can detoxifying carcinogens, therapeutic drugs, environmental toxins and products of oxidative stress, by conjugation with glutathione. Besides, uncoupling Protein 1 (UCP1) has been identified as an interactor of GSTM1, thus a binding ELISA assay was conducted to detect the interaction of recombinant rat GSTM1 and recombinant rat UCP1. Briefly, GSTM1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to UCP1-coated microtiter wells and incubated for 2h at 37 °C . Wells were washed with PBST and incubated for 1h with anti-GSTM1 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 of GSTM1 and UCP1 was shown in Figure 1, and this effect was in a dose dependent manner.

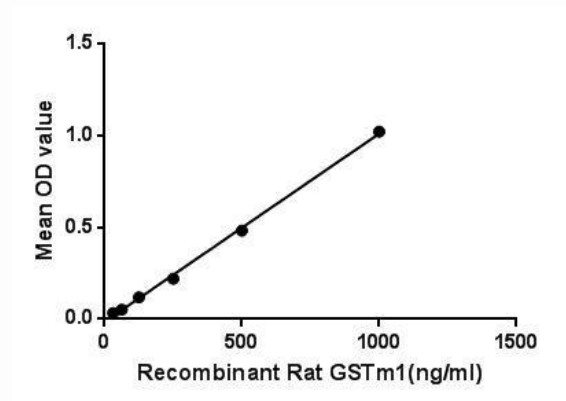


Figure 1. The binding activity of GSTM1 with UCP1.

## [ IDENTIFICATION ]

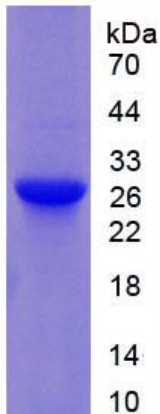
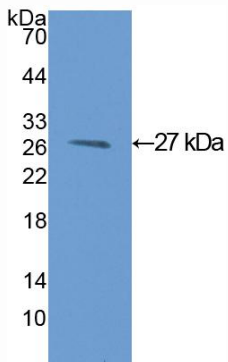


Figure 2. SDS-PAGE

Sample: Active recombinant GSTm1, Rat



**Figure 3. Western Blot**

**Sample: Recombinant GSTm1, Rat;**

**Antibody: Rabbit Anti-Rat GSTm1 Ab (PAA658Ra01)**