

APA658Hu01 100µg
Active Glutathione S Transferase Mu 1 (GSTM1)
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: Met1~Lys218

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% SKL, 5%Trehalose .

Original Concentration: 200µg/mL

Applications: Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 6.6

Predicted Molecular Mass: 27.0kDa

Accurate Molecular Mass: 26kDa 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]

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MPMILGYWDI RGLAHAIRLL LEYTDSSYEE KKYTMGDAPD YDRSQWLNEK
FKLGLDFPNL PYLIDGAHKI TQSNAILCYI ARKHNLGGET EEEKIRVDIL
ENQTMNDNHMQ LGMICYNPEF EKLKPKYLEE LPEKCLKLYSE FLGKRPWFAG
NKITFVDFLV YDVLDLHRIF EPKCLDAFPN LKDFISRFEGL EKISAYMKS
SRFLPRPVFS KMAVWGNK
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[ACTIVITY]

Glutathione S-Transferases (GSTs) are members of the phase II detoxification enzyme family that conjugate glutathione to various electrophilic compounds, including metabolites generated by oxidative processes in the body, environmental toxins or carcinogens, and anti-cancer drugs. GSTM1 is a cytosolic protein that belongs to the mu class of the GST superfamily. GSTM1 catalyze the endogenous glutathione conjugation 1-Chloro-2,4-dinitrobenzene (CDNB), which can increase in the absorbance at 340 nm. The reaction was performed in adding 10 μ l 200 mM glutathione (reduced) and 10 μ l 100 mM CDNB in 980 μ l 100 mM NaH₂PO₄ (pH7.0), rapidly mixed. Then add 50 μ l mixed substrates to 50 μ l different concentrations of recombinant human GSTM1, mix gently. Incubated at 37 °C for 5min, then read at a wavelength of 340 nm. The specific activity of recombinant human GSTM1 is >330,000 pmol/min/ μ g.

Specific Activity (pmol/min/ug)=

$$\frac{\text{Adjusted } V_{\max}^* \text{ (OD/min)} \times \text{well volume (L)} \times 10^{12} \text{ pmol/mol}}{\text{ext. coeff}^{**} \text{ (M}^{-1}\text{cm}^{-1}) \times \text{path corr.}^{***} \text{ (cm)} \times \text{amount of enzyme (ug)}}$$

*Adjusted for Substrate Blank

**Using the extinction coefficient 9600 M⁻¹cm⁻¹

***Using the path correction 0.32 cm

[IDENTIFICATION]

GGATTCATGGCCATGATCTGGGGACCTGGGAGTCCGGCCCGCCGACGTCCTCCCTGGATCCGAGCTGACCTATGGGAGAGAGCCGGTGGGGAGCTCCGTTATGGAGAGCCGGTGGTGGAGAAATTCATCCGCTGGCTTCGCCATCTGATGATGGGGTCCGGATCCGCCGAGAGCCCACTTGGCCACTTGC

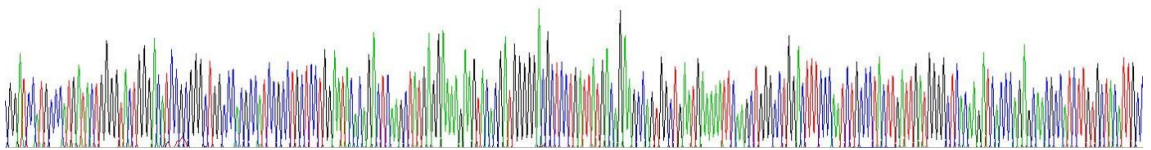


Figure 1. Gene Sequencing (extract)

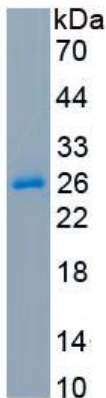


Figure 2. SDS-PAGE

Sample: Active recombinant GSTM1, 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.