

APB090Po01 100µg

Active Glutathione S Transferase Pi (GSTp)

Organism Species: *Sus scrofa*; *Porcine (Pig)*

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: Met17~Lys206

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% Sarcosyl, 5%Trehalose .

Original Concentration: 200µg/mL

Applications: Activity Assays.

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

Predicted isoelectric point: 7.5

Predicted Molecular Mass: 25.4kDa

Accurate Molecular Mass: 27kDa 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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MRML LADQDQSWKE EVVTMETWPP LKPSCLFRQL
PKFQDGD LTL YQSNAILRHL GRSFGLYGKD QKEAALVDMV NDGVEDLRCK
YATLIYTNYE AGKEYVKEL PEHLKPFETL LSQNQGQAF VVGSQISFAD
YNLLDLLRIH QVLNPSC LDA FLLSAYVAR LSARPKIKAF LASPEHVNRP
INGNGK
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[ACTIVITY]

Glutathione S Transferase Pi (GSTp) is a key member of the GST enzyme family, widely expressed in mammalian tissues like the liver, kidneys, and lungs. It primarily functions in cellular detoxification, catalyzing the conjugation of glutathione to electrophilic xenobiotics and endogenous reactive species, facilitating their excretion. Beyond detoxification, GSTp also regulates cellular signaling and stress responses—for instance, it modulates oxidative stress by scavenging free radicals and interacts with signaling molecules to influence cell survival. Structurally, it exists as a homodimer, with each subunit containing a glutathione-binding site and a substrate-binding site, enabling its enzymatic and regulatory roles. GSTp specifically binds to Mitogen Activated Protein Kinase 8 (MAPK8), inhibiting MAPK8's kinase activity to regulate stress and apoptotic pathways. To detect the activity of recombinant GSTp a functional ELISA assay was performed to evaluate the interaction between recombinant pig GSTp and recombinant human MAPK8. Briefly, GSTp was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to MAPK8-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-GSTp pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37°C, wells

were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50 µL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant pig GSTp and recombinant human MAPK8 was shown in Figure 1, the EC₅₀ for this effect is 0.31µg/mL.

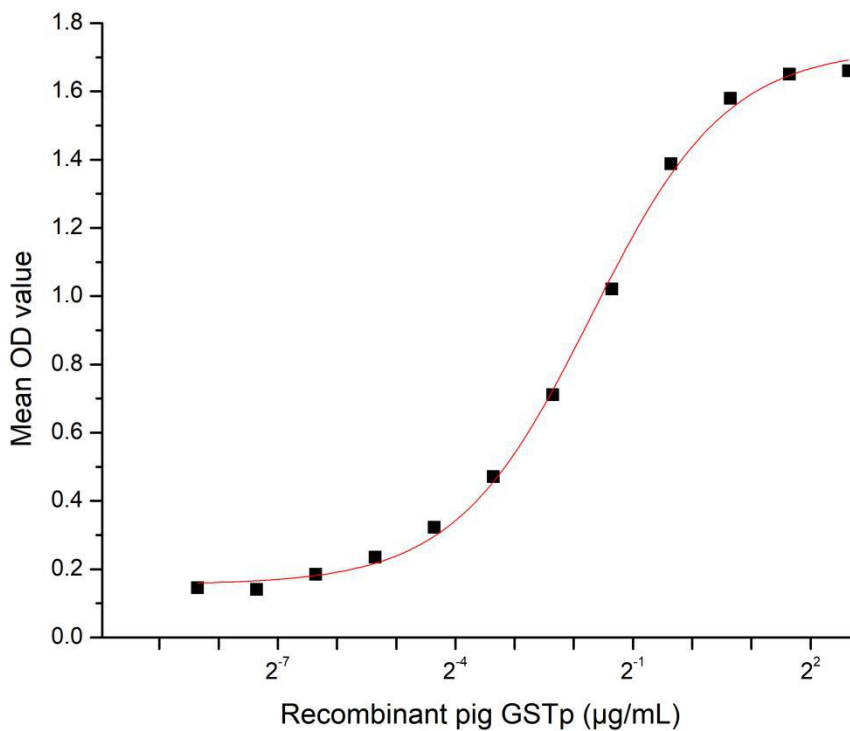


Figure 1. The binding activity of recombinant pig GSTp and recombinant human MAPK8

[IDENTIFICATION]

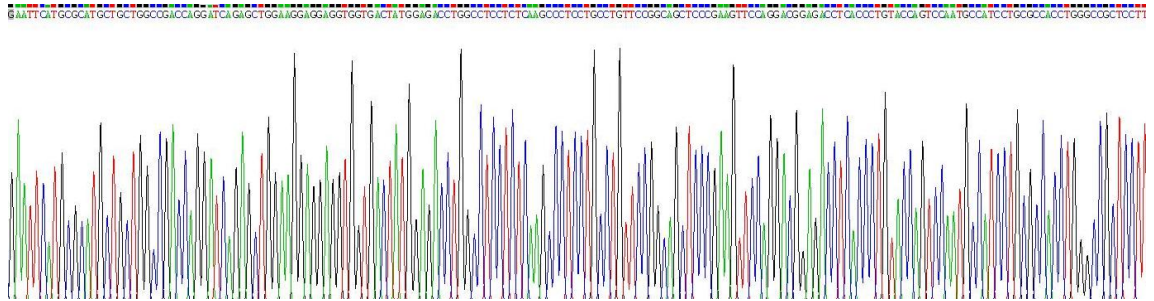


Figure 2. Gene Sequencing (extract)

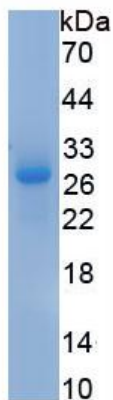


Figure 3. SDS-PAGE

Sample: Active recombinant GSTp, Pig

[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.