

APB940Ra01 100µg
Active Tissue Factor Pathway Inhibitor 2 (TFPI2)
Organism Species: *Rattus norvegicus* (Rat)
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: Val26~Ser230

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: 9.3

Predicted Molecular Mass: 25.1kDa

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]

VSAQGNNLEICLLPLDMGPCKALIPKFYYDRDQKKCRRFKYGGCLGNANNFHSRKLCEHTC
GNKEKVPWVCRSAVRTYPCDKPNTTEFFFNLTMTCEPLRPGLCSRTTNVFPEEAMCKSLCEP
RKSIPSCSSPKDEGLCSANVTRYFNSRNKACETFTYTGCGGNENNFYYLDACNRACVKALK
KPKRRKIGDFLPRFWKLRS

[ACTIVITY]

Tissue Factor Pathway Inhibitor 2 (TFPI2) is a serine protease inhibitor primarily produced by endothelial cells, fibroblasts, and placental trophoblasts. It plays a critical role in regulating coagulation by inhibiting the tissue factor (TF)-dependent extrinsic pathway of blood clotting, specifically targeting factor Xa and the TF-factor VIIa complex. Beyond hemostasis, TFPI2 is involved in extracellular matrix remodeling, wound healing, and angiogenesis. It also exhibits tumor-suppressive properties by inhibiting matrix metalloproteinases (MMPs) and preventing tumor invasion and metastasis. Reduced TFPI2 expression is associated with various cancers, including pancreatic, ovarian, and colorectal cancer, making it a potential biomarker for tumor progression. Additionally, TFPI2 has been implicated in cardiovascular and inflammatory diseases. Besides, Insulin Like Growth Factor 2 (IGF2) has been identified as an interactor of TFPI2, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant rat TFPI2 and recombinant rabbit IGF2. Briefly, TFPI2 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to IGF2-coated microtiter wells and incubated for 1h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-TFPI2 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 rat TFPI2 and recombinant rabbit IGF2 was shown in Figure 1, the EC50 for this effect is 0.32µg/mL.

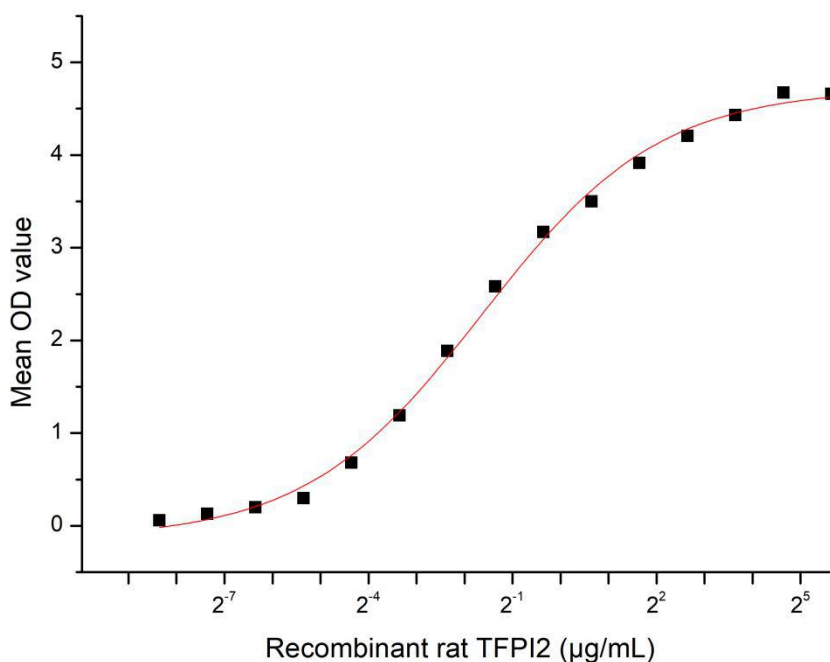


Figure 1. The binding activity of recombinant rat TFPI2 and recombinant rabbit IGF2

[IDENTIFICATION]

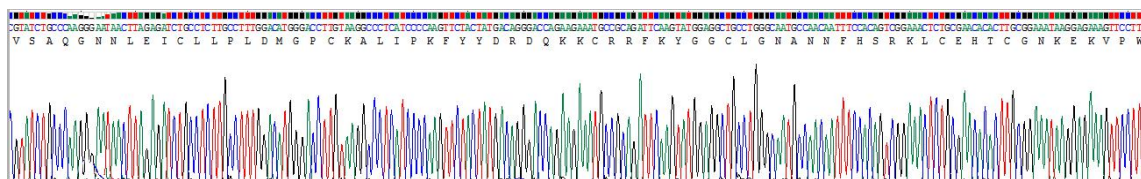


Figure 2. Gene Sequencing (extract)

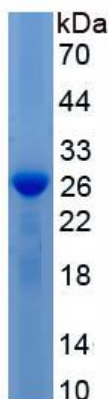


Figure 3. SDS-PAGE

Sample: Active recombinant TFPI2, Rat

[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.