

APA751Hu02 100µg
Active Programmed Cell Death Protein 1 (PD1)
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: Pro21~Val170

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: 8.7

Predicted Molecular Mass: 20.5kDa

Accurate Molecular Mass: 22&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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PGWFLDSPDR PWNPPTFSPA LLVVTEGDNA  
TFTCSFSNTS ESFVLNWYRM SPSNQTDKLA AFPEDRSQPG QDCRFRVTQL  
PNGRDFHMSV VRARRNDSGT YLCGAISLAP KAQIKESLRA ELRVTERRAE  
VPTAHPSPSP RPAGQFQTLV
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[ACTIVITY]

PD-1 (Programmed Death-1 receptor), also known as CD279, is a receptor expressed on T cells responsible for modulating T cell activation. Like CTLA-4, PD-1 is classified as an immune checkpoint inhibitory receptor. When PD-1 protein binds to PD-L1, it initiates a negative signaling cascade inhibiting activation of T cells. The cytoplasmic tail contains two tyrosine residues that form the immunoreceptor tyrosine-based inhibitory motif (ITIM) and immunoreceptor tyrosine-based switch motif (ITSM) that are important for mediating PD-1 signaling. Normally, PD-1 helps keep T cells from attacking other cells in the body. However, many cancers take advantage of this by expressing high amounts of PD-L1 allowing cancer cells to evade the body's own immune response. Blocking the PD-1:PD-L1 interaction has proven successful in treating many different cancer types. A functional binding ELISA assay was conducted to detect the interaction of recombinant human PDCD1 and recombinant human CTLA4. Briefly, PDCD1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to CTLA4-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-PDCD1 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 450/630 nm immediately. The binding activity of recombinant human PDCD1 and recombinant human CTLA4 was shown in Figure 1, the EC50 for this effect is 0.12 ug/mL.

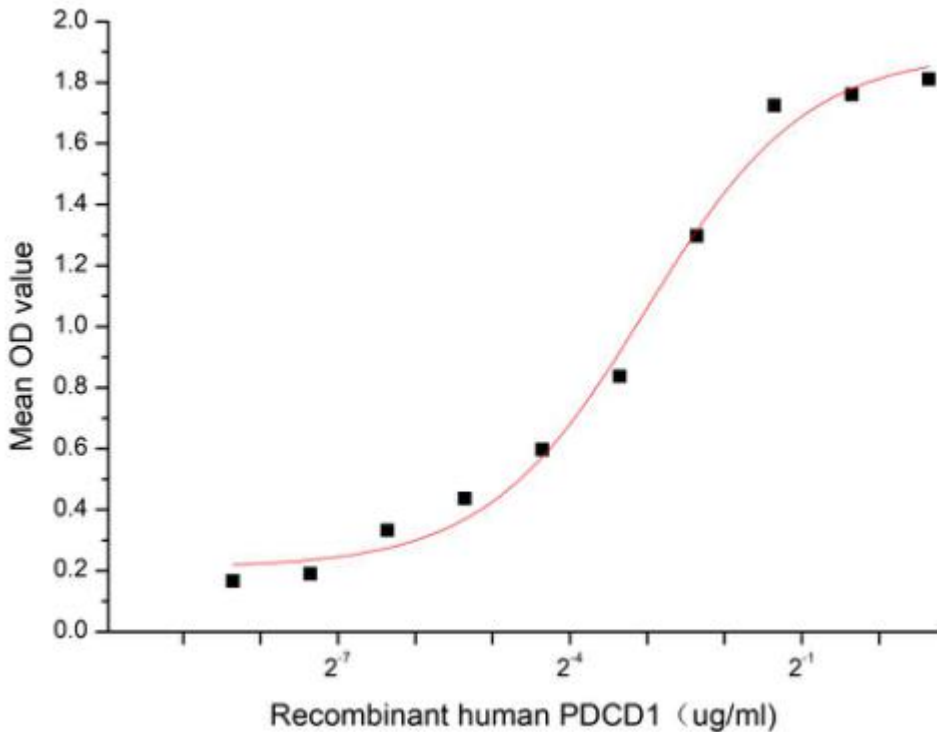


Figure 1. The binding activity of recombinant human PDCD1 and recombinant human CTLA4

[IDENTIFICATION]

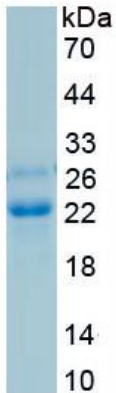


Figure 2. SDS-PAGE

Sample: Active recombinant PD1, 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.