APB434Hu02 100μg
Active Proteinase 3 (PR3)
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: Ile28~Arg248
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: 7.8
Predicted Molecular Mass: 27.9kDa
Accurate Molecular Mass: 22&28kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:
1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[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 2-8ºC for one month.

Aliquot and store at -80ºC 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 37ºC 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]

IVGGHEAQPHSRPYMASLQMRGNPGSHFCGGTLIHPSFVLTAAHCLRDIPQRLVNVVLGAHNVRTQEPTQQHFSVAQVFLNNYDAENK
LNDVLLIQLSSPANLSASVATVQLPQQDQPVPHGTQCLAMGWGRVGAHDPPAQVLQELNVTVVTFFCRPHNICTFVPRRKAGICFGDS
GGPLICDGIIQGIDSFVIWGCATRLFPDFFTRVALYVDWIRSTLR

[ACTIVITY]

Proteinase 3 (PR3) is a neutrophil-derived serine protease involved in inflammatory and immune responses, as well as the regulation of apoptosis. It contributes to the pathogenesis of autoimmune diseases such as granulomatosis with polyangiitis (GPA), where anti-PR3 autoantibodies (ANCAs) induce neutrophil activation and vasculitis. PR3 modulates immune activity through proteolytic processing of extracellular matrix components and cytokines.Additionally,PR3 cleaves and inactivates XIAP, an anti-apoptotic protein, thereby promoting apoptosis and enhancing cellular sensitivity to death signals. This interaction links inflammation to programmed cell death regulation. Thus a functional ELISA assay was conducted to detect the interaction of recombinant human PR3 and recombinant human XIAP. Briefly, PR3 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then

transferred to XIAP-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-PR3 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant human PR3 and recombinant human XIAP was shown in Figure 1, and this effect was in a dose dependent manner.

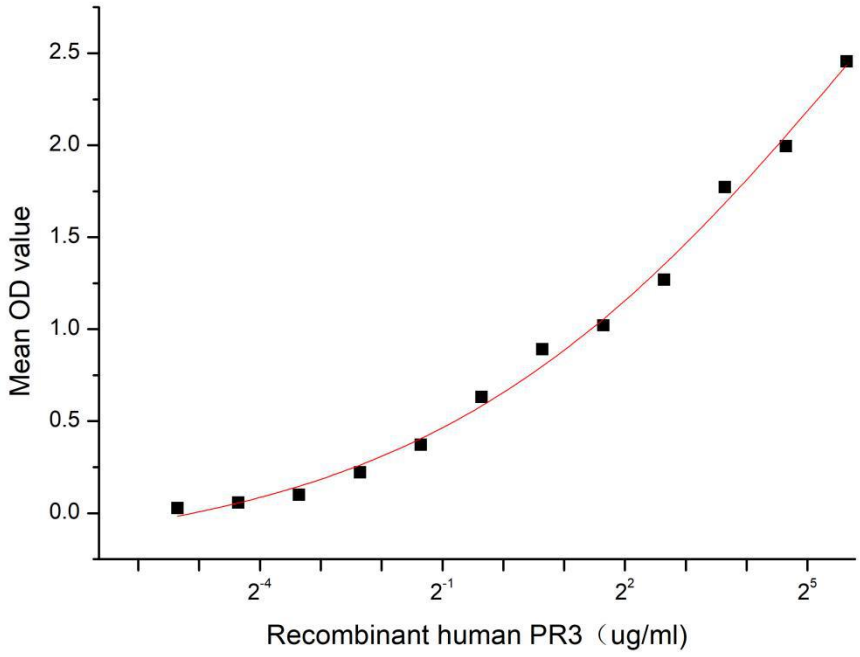

Figure 1. The binding activity of recombinant human PR3 and recombinant human XIAP

[IDENTIFICATION]

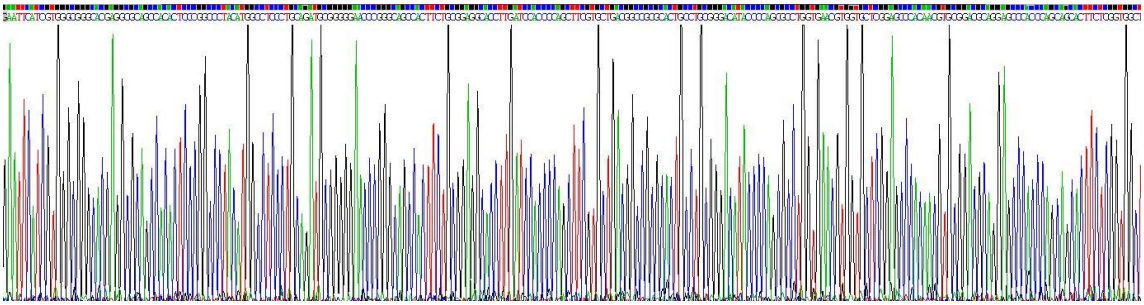

Figure 2. Gene Sequencing (extract)

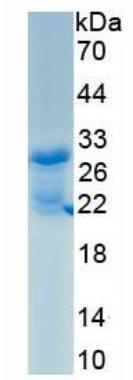

Figure 3. SDS-PAGE

Sample: Active recombinant PR3, 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.