

APB964Hu01 100µg

Active Calpain 1 (CAPN1)

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: Pro75~Arg343

Tags: N-terminal His-tag

Purity: >95%

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: 5.5

Predicted Molecular Mass: 31.6kDa

Accurate Molecular Mass: 32kDa 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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PNSSKT YGIKWKRPT E LLSNPQFIVD
GATRTDICQG ALGDCWLLAA IASLTLNDTL LHRVVPHGQS FQNGYAGIFH
FQLWQFGEWV DVVVDDLLPI KDGKLVFVHS AEGNEFWSAL LEKAYAKVNG
SYEALSGGST SEGFEDFTGG VTEWYELRKA PSDLYQIILK ALERGSLLGC
SIDISSVLDM EAITFKKLVK GHAYSVTGAK QVNYRGQVVS LIRMRNPWGE
VEWTGAWSDS SSEWNNVDPY ERDQLRVKME DGEFWMSFRD FMR
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[ACTIVITY]

Calpain 1 (CAPN1), a calcium-dependent cysteine protease, is a member of the calpain family. CAPN1 is primarily found in muscle tissue, particularly in skeletal muscle, where it is involved in the regulation of muscle contraction and relaxation. It is involved in various physiological and pathological processes, such as apoptosis, cell signal transduction and cytoskeleton reconstruction. It is reported that the binding of BID and CAPN1 plays an important role in the process of apoptosis. Thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human CAPN1 and recombinant human BID. Briefly, CAPN1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to BID-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-CAPN1 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 μ l stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant human CAPN1 and recombinant human BID was

shown in Figure 1, the EC50 for this effect is 0.1 ug/mL.

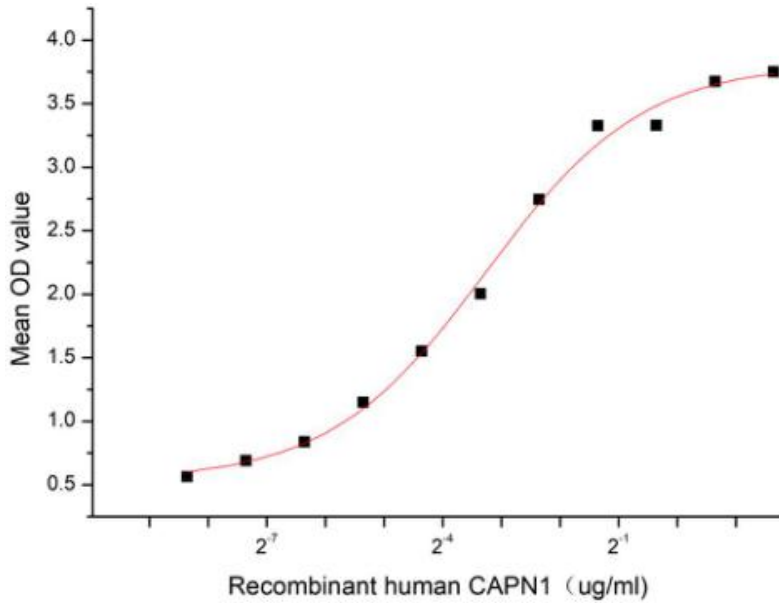


Figure 1. The binding activity of recombinant human CAPN1 and recombinant human BID

[IDENTIFICATION]

5AATTCCCGAATTCTCCAGAGCCTATGCGATCAAGTGGAMCGTCCGACGAACTGCTGTGAACCCCGGTTGATTTGTGGATGAGGCTACCGCGACAGAGATCTGCCAGGGAGCACTGGGGGACTGCTGCTCTTGGGGCCATGGCCCTCCGACTCTCAAGCGACCCCTCCCTGACCGGATGGGTCCGACGG

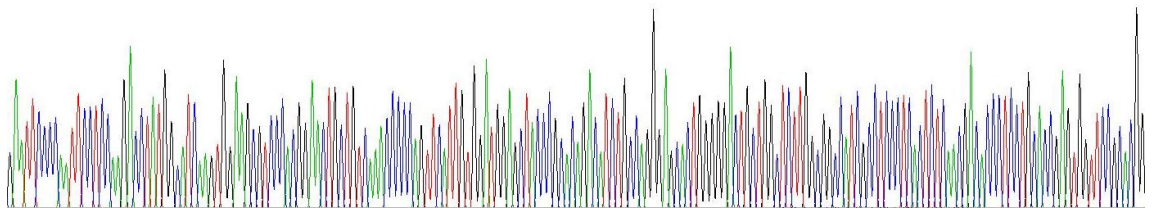


Figure 2. Gene Sequencing (extract)

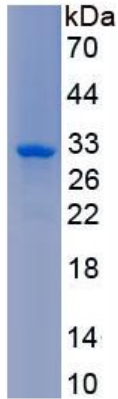


Figure 3. SDS-PAGE

Sample: Active recombinant CAPN1, 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.