APB964Ra01 100μg
Active Calpain 1, Large Subunit (CAPN1)
Organism Species: Rattus norvegicus (Rat)
Instruction manual

FOR IN VITRO USE AND RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Pro75~Asp356
Tags: N-terminal His-tag
Purity: >95%
Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.05% sarcosyl and 5% trehalose.
Applications: Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 5.3
Predicted Molecular Mass: 33.5kDa
Accurate Molecular Mass: 33kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) 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]

PNSSKT YGIKWKRPTE LLSNPQFIVD
GATRTDICQG ALGDCWLLAA IASLTLNETI LHRVVPYGQS FQEGYAGIFH
FQLWQFGEWV DVVVDDLLPT KDGKLVFVHS AQGNEFWSAL LEKAYAKVNG
SYEALSGGCT SEAFEDFTGG VTEWYDLQKA PSDLYQIILK ALERGSLLGC
SINISDIRDL EAITFKNLVR GHAYSVTDAK QVTYQGQRVN LIRMRNPWGE
VEWKGPWSDN SYEWNKVDPY EREQLRVKME DGEFWMSFRD FIREFTKLEI
CNLTPD

[ACTIVITY]

Calpain 1, Large Subunit (CAPN1) is an intracellular protease that requires calcium for its catalytic activity. Calcium-regulated non-lysosomal thiol-protease which catalyze limited proteolysis of substrates involved in cytoskeletal remodeling and signal transduction. It has broad endopeptidase specificity. Besides, Signal Transducer And Activator Of Transcription 3 (STAT3) has been identified as an interactor of CAPN1, thus a binding ELISA assay was conducted to detect the interaction of recombinant rat CAPN1 and recombinant rat STAT3. Briefly, CAPN1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to STAT3-coated microtiter wells and incubated for 2h at 37℃. 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, wells were aspirated and washed 3 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μL stop solution to the wells and read at 450nm immediately. The binding activity of of CAPN1 and STAT3 was shown in Figure 1, and this effect was in a dose dependent manner.

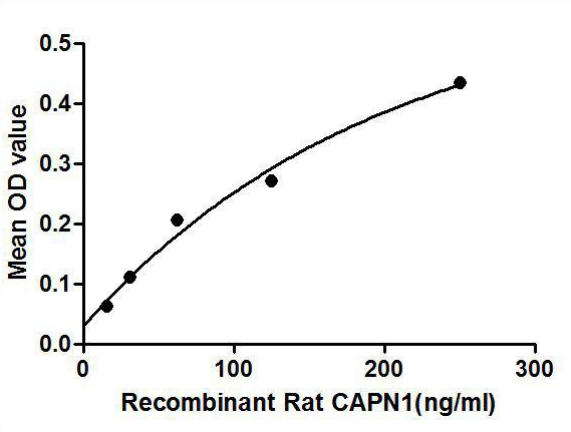

Figure 1. The binding activity of CAPN1 with STAT3.

[IDENTIFICATION]

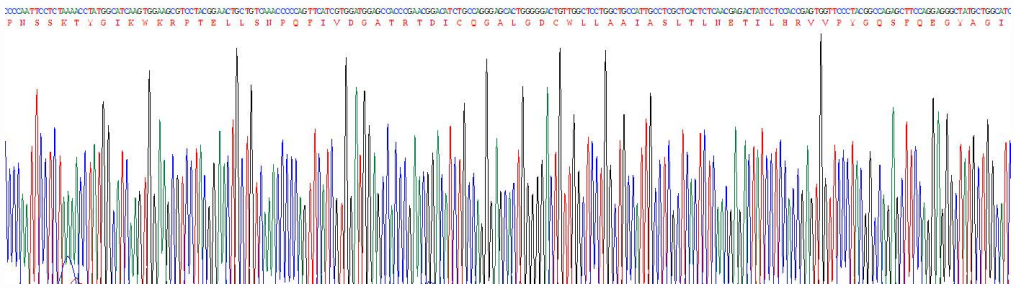

Figure 2. Gene Sequencing (Extract)

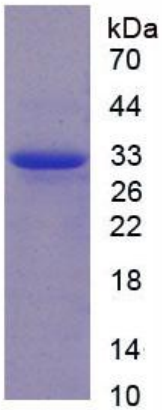

Figure 3. SDS-PAGE

Sample: Active recombinant CAPN1, Rat

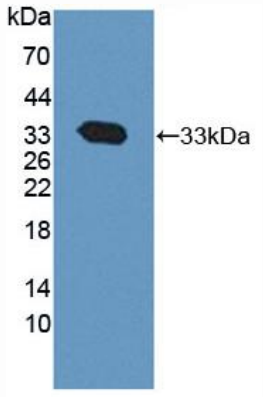

Figure 4. Western Blot

Sample: Recombinant CAPN1, Rat;

Antibody: Rabbit Anti-Rat CAPN1 Ab (PAB964Ra01)