

APA640Hu01 50µg

Active Calmodulin (CAM)

Organism Species: *Homo sapiens* (Human)

Instruction manual

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[PROPERTIES]

Source: Prokaryotic expression.

Host: *E. coli*

Residues: Ala2~Lys149

Tags: N-terminal His-tag

Purity: >92%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.01% sarcosyl, 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: 4.5

Predicted Molecular Mass: 20.4kDa

Accurate Molecular Mass: 20kDa 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 2-8°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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ADQLTEEQI AEFKEAFSLF DKDGDGTITT KELGTVMRSL GQNPTEAELQ  
DMINEVDADG NGTIDFPEFL TMMARKMKDT DSEEEIREAF RVFDKDGNGY  
ISAAELRHVM TNLGEKLTDE EVDEMIREAD IDGGQVNYE EfvQMNTAK
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[ACTIVITY]

Calmodulin (CAM) is the archetype of the family of calcium-modulated (calmodulin) proteins of which nearly 20 members have been found. Its functions include roles in growth and the cell cycle as well as in signal transduction and the synthesis and release of neurotransmitters. Calmodulin mediates the control of a large number of enzymes, ion channels, aquaporins and other proteins through calcium-binding. Among the enzymes to be stimulated by the calmodulin-calcium complex are a number of protein kinases and phosphatases. Besides, Myosin IC (MYO1C) has been identified as an interactor of CAM, thus a binding ELISA assay was conducted to detect the interaction of recombinant human CAM and recombinant human MYO1C. Briefly, CAM were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100µL were then transferred to MYO1C-coated microtiter wells and incubated for 2h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-CAMpAb, 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 °C. Finally, add 50µL stop solution to the wells and read at 450nm immediately. The binding activity of CAM and MYO1C was shown in Figure 1, and this effect was in a dose dependent manner.

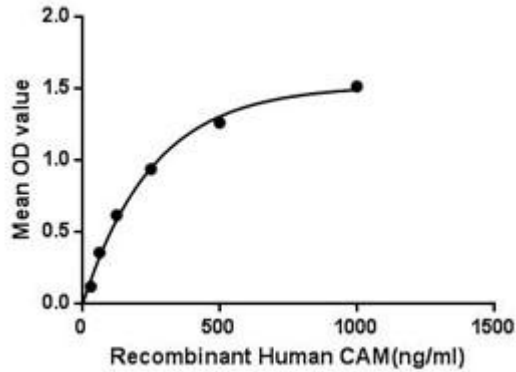


Figure 1. The binding activity of CAM with MYO1C

[IDENTIFICATION]

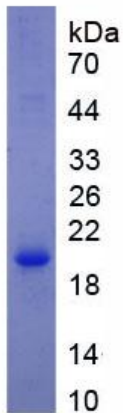


Figure 2. SDS-PAGE

Sample: Active recombinant CAM, Human

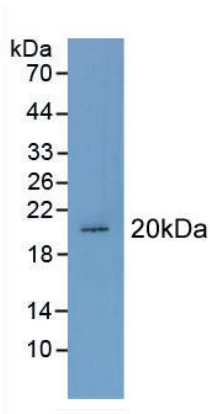


Figure 3. Western Blot

Sample: Recombinant CAM, Human;

Antibody: Rabbit Anti-Human CAM Ab (PAA640Hu01)

[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.