APC419Mu01 100μg
Active Cathelicidin Antimicrobial Peptide (CAMP)
Organism Species: *Mus musculus (Mouse)*
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: Ser31~Glu172
Tags: N-terminal His and GST Tag
Purity: >80%
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: 6.5
Predicted Molecular Mass: 48.9kDa
Accurate Molecular Mass: 48kDa 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 2-8ºC 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]

SYRDAVLRAV DDFNQQSLDT NLYRLLDLDP EPQGDEDPDT PKSVRFRVKE TVCGKAERQL PEQCAFKEQG VVKQCMGAVT LNPAADSFDI SCNEPGAQPF RFKKISRLAG LLRKGGEKIG EKLKKIGQKI KNFFQKLVPQ PE

[ACTIVITY]

Cathelicidin Antimicrobial Peptide (CAMP) is a cationic host defense peptide predominantly expressed in neutrophils, epithelial cells, and keratinocytes, with a conserved cathelin domain at the N-terminus and a variable antimicrobial domain at the C-terminus. It exerts broad-spectrum antimicrobial activity against bacteria, fungi, and viruses by disrupting microbial cell membranes, and also modulates the host immune response by regulating cytokine secretion, promoting immune cell recruitment, and enhancing wound healing. CAMP plays a critical role in innate immunity, bridging the gap between innate and adaptive immune systems. Abnormal CAMP expression is associated with inflammatory disorders, skin diseases, and infectious pathologies, making it a promising target for developing antimicrobial therapeutics. CAMP interacts with lactoferrin (LTF) to synergistically enhance antimicrobial efficacy and immune regulatory functions.Thus a functional ELISA assay was conducted to detect the interaction of recombinant mouse CAMP and recombinant human LTF. Briefly, CAMP was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to LTF-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-CAMP 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 mouse CAMP and recombinant human LTF was shown in Figure 1, the EC50 for this effect is 0.612μg/mL.

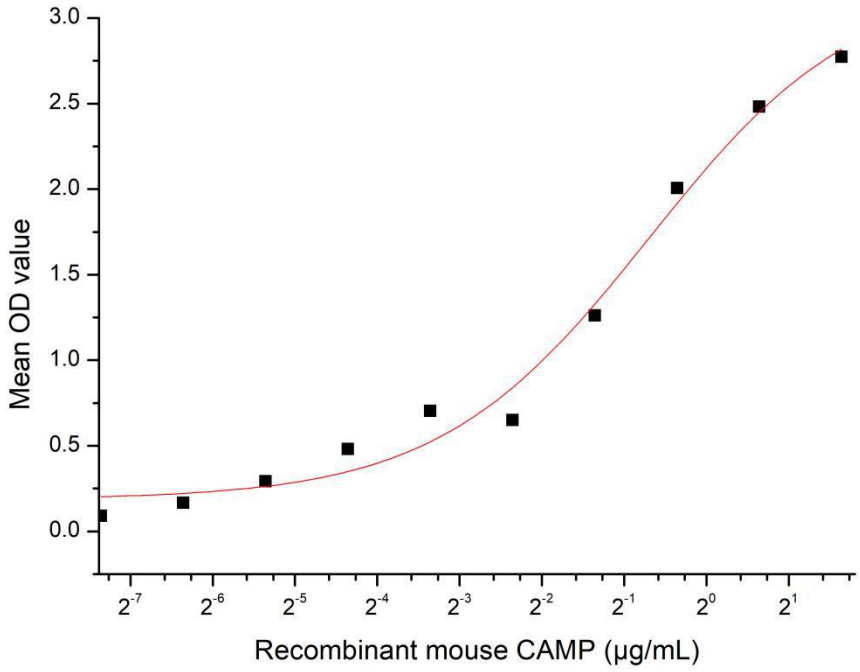

Figure 1. The binding activity of recombinant CAMP and LTF

[IDENTIFICATION]

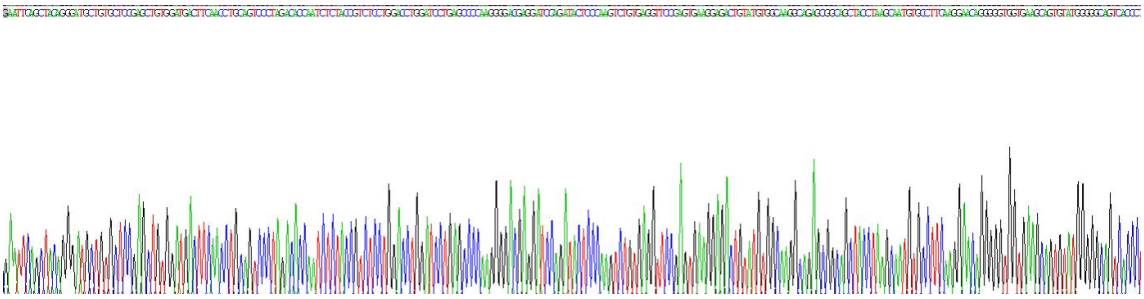

Figure 2. Gene Sequencing (extract)

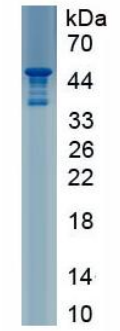

Figure 3. SDS-PAGE

Sample: Active recombinant CAMP, Mouse

[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.