APC419Hu01 100μg
Active Cathelicidin Antimicrobial Peptide (CAMP)
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: Gln31~Ser170
Tags: N-terminal His-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: 7.7
Predicted Molecular Mass: 22.7kDa
Accurate Molecular Mass: 27/19/16kDa 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 2-8°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]

QVLSYKEAVL RAIDGINQRS SDANLYRLLD LDPRPTMDGD PDTPKPVSFT VKETVCPRTT QQSPEDCDFK KDGLVKRCMG TVTLNQARGS FDISCDKDNK RFALLGDFFR KSKEKIGKEF KRIVQRIKDF LRNLVPRTES

[ACTIVITY]

CAMP encodes Cathelicidin Antimicrobial Peptide, a key component of the innate immune system. Expressed in epithelial cells and immune cells, it exhibits broad-spectrum antimicrobial activity against bacteria, fungi, and viruses. Beyond pathogen elimination, it regulates inflammation and promotes wound healing, playing vital roles in host defense. CAMP binds with CTSG to enhance antimicrobial efficacy and modulate immune response synergistically.Thus a functional ELISA assay was conducted to detect the interaction of recombinant human CAMP and recombinant rat CTSG. Briefly, CAMP was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to CTSG-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 human CAMP and recombinant rat CTSG was shown in Figure 1, the EC50 for this effect is 0.0076μg/mL.

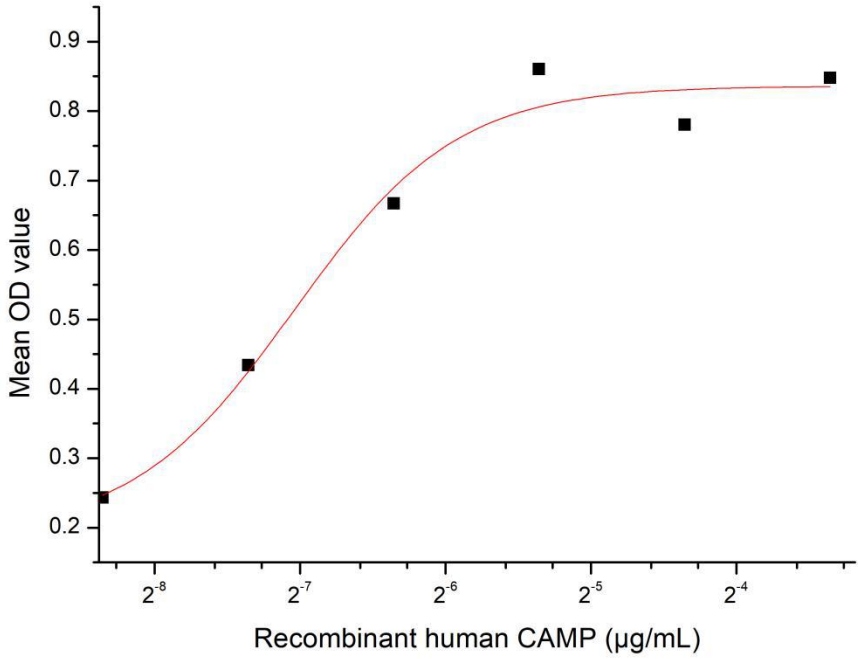


Figure 1. The binding activity of recombinant CAMP and rat CTSG

[IDENTIFICATION]

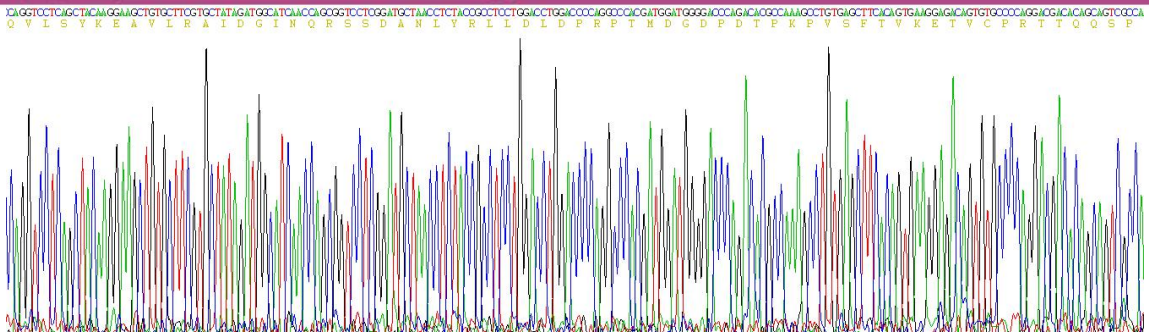


Figure 2. Gene Sequencing (extract)

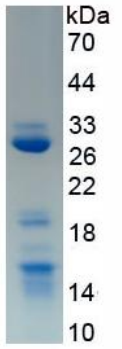


Figure 3. SDS-PAGE

Sample: Active recombinant CAMP, 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.