

**APA387Mu61 100µg**  
**Active Complement Component 3a (C3a)**  
**Organism Species: *Mus musculus (Mouse)***  
***Instruction manual***

FOR RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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13th Edition (Revised in Aug, 2023)

## **[ PROPERTIES ]**

**Source:** Eukaryotic expression.

**Host:** 293F cell

**Residues:** Ser671~Arg748

**Tags:** N-terminal His-tag

**Purity:** >95%

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

**Buffer Formulation:** PBS, pH7.4, containing 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:** 9.5

**Predicted Molecular Mass:** 9.9kDa

**Accurate Molecular Mass:** 14kDa 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 ]**

SVQLMERRMD KAGQYTDKGL RKCCEDGMRD  
IPMRYSCQRR ARLITQGENC IKAFIDCCNH ITKLREQHRR DHVLGLAR

## **[ ACTIVITY ]**

Complement Component 3a (C3a) is a component of the complement system, this protein is also known as the C3a anaphylatoxin, modulates inflammation and possesses antimicrobial activity. It's been identified that C3A can interact with Complement Factor I (CFI), thus a functional binding ELISA assay was conducted to detect the interaction of recombinant mouse C3a and recombinant human CFI. Briefly, C3a was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100  $\mu$ l were then transferred to CFI-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST and incubated for 1h with anti-C3a 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  $\mu$ L stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant human C3a and recombinant human CFI was shown in Figure 1, the EC50 for this effect is 0.77  $\mu$ g/mL.

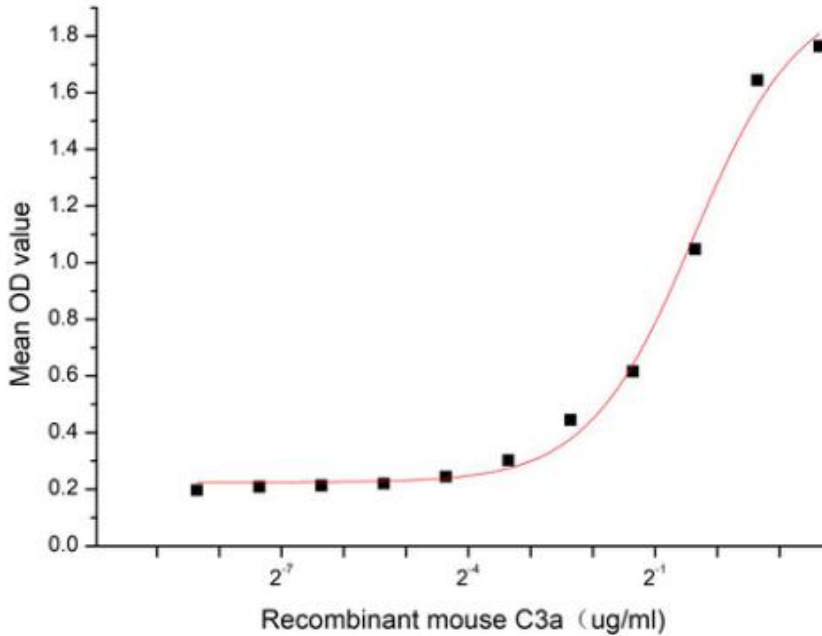


Figure 1. The binding activity of recombinant mouse C3a and recombinant human CFI

[ IDENTIFICATION ]

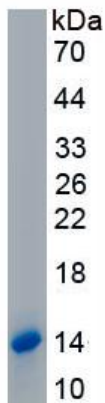


Figure 2. SDS-PAGE

Sample: Active recombinant C3a, 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.