

APB099Ra61 100µg

Active Cluster Of Differentiation 8a (CD8a)

Organism Species: *Rattus norvegicus (Rat)*

Instruction manual

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.

Host: 293F cell

Residues: Gln27~Tyr189

Tags: N-terminal His-tag

Purity: >90%

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

Buffer Formulation: PBS, pH7.4, containing 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: 9.2

Predicted Molecular Mass: 19.6kDa

Accurate Molecular Mass: 28kDa 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]

QLQLSPKKVDAEIGQEVKLTCEVLRDTSQGCSWLFRNSSSELLQPTFIYVSSSRSKLNDIL
DPNLFSAARKENKYLTLSEKSTKNQGYFCSITSNSVMYFSPLPVFQKVNSIITKPVTRAP
TPVPPPTGTPRPLRPEACRPGASGSVEGMGLGFACDIY

[ACTIVITY]

Cluster Of Differentiation 8a (CD8a) is a cell surface glycoprotein predominantly found on cytotoxic T cells and natural killer cells. It serves as a coreceptor for the T cell receptor, binding to MHC class I molecules to enhance antigen recognition and T cell activation. Structurally, CD8 α can form heterodimers with CD8 β or homodimers, with the heterodimeric form being most common on cytotoxic T cells. This molecule plays a vital role in adaptive immunity by facilitating the elimination of virus-infected and cancerous cells. Beyond its effector functions, CD8 α is essential for T cell development in the thymus. Besides, A Cluster Of Differentiation 4 (CD4) has been identified as an interactor of CD8a, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant rat CD8a and recombinant simian CD4. Briefly, biotin-linked CD8a were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to

CD4-coated microtiter wells and incubated for 1h at 37°C. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 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 recombinant rat CD8a and recombinant simian CD4 was shown in Figure 1, the EC₅₀ for this effect is 0.65µg/mL.

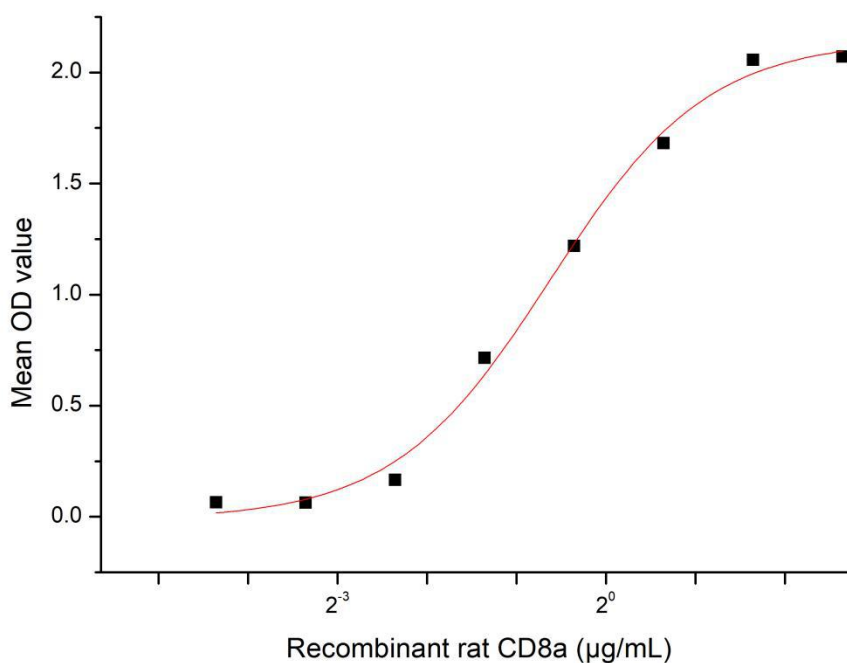


Figure 1. The binding activity of recombinant rat CD8a and recombinant simian CD4

[IDENTIFICATION]

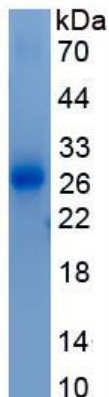


Figure 2. SDS-PAGE

Sample: Active recombinant CD8a, Rat

[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.