

APB167Mu62 100µg

Active Cluster Of Differentiation 4 (CD4)

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: Eukaryotic expression.

Host: 293F cell

Residues: Lys27~Thr394

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:

Predicted Molecular Mass: 42.8kDa

Accurate Molecular Mass: 50-60kDa 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]

KTLVLGKEGESAELPCESSQKKITVFTWKFSDQRKILGQHGKGVLRGGSPSQFDRFDSKK
GAWEKGSFPLIINKLMEDSQTYICELENRKEEVELWVFKVTFSPGTSLLQGQSLTLTLDN
SKVSNPLTECKHKKGKVVSGSKVLSMSNLRVQDSDFWNCTVTLDQKKNWFGMTLSVLG
FQSTAITAYKSEGESAEFSLNFAEENGWGELMWKAEKDSFFQPWISFSIKNKEVSVQKS
TKDLKLQLKETLPLTLKIPQVSLQFAGSGNLTLTLDKGLHQEVNLVVMKVAQLNNTLTCE
VMGPTSPKMRLTLKQENQEARVSEEQKVQVQVAPETGLWQCLLSEGDKVKMDSRIQVL
SRGVNQT

[ACTIVITY]

Cluster Of Differentiation 4 (CD4) is a glycoprotein expressed on the surface of immune cells, primarily T-helper cells, macrophages, and dendritic cells. It serves as a co-receptor for the T-cell receptor (TCR) during antigen presentation, binding to major histocompatibility complex class II (MHC-II) molecules on antigen-presenting cells (APCs). This interaction stabilizes TCR-MHC-II binding and initiates immune signaling. CD4 also acts as a primary receptor for HIV-1, enabling viral entry into host cells. Besides, Chemokine C-X-C-Motif Receptor 4 (CXCR4) has been identified as an interactor of CD4, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant mouse CD4

and recombinant mouse CXCR4. Briefly, biotin-linked CD4 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to CXCR4-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 50 μ l stop solution to the wells and read at 450nm immediately. The binding activity of CD4 and CXCR4 was shown in Figure 1, the EC₅₀ for this effect is 2.57 μ g/mL.

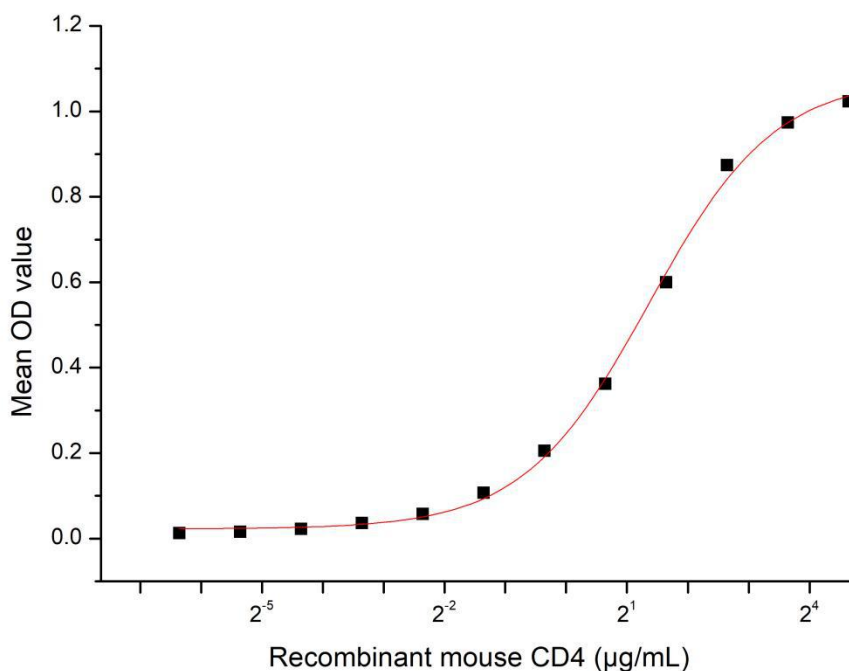


Figure 1. The binding activity of recombinant mouse CD4 and recombinant mouse CXCR4

[IDENTIFICATION]

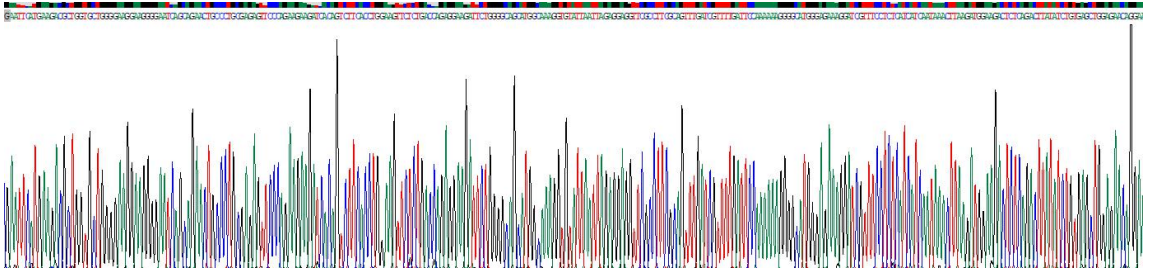


Figure 2. Gene Sequencing (extract)

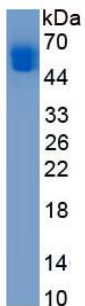


Figure 3. SDS-PAGE

Sample: Active recombinant CD4, 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.