

APB798Hu61 100µg
Active Cluster Of Differentiation 5 (CD5)
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: Eukaryotic expression.

Host: 293F cell

Residues: Arg25~Pro372

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: 7.9

Predicted Molecular Mass: 40.3kDa

Accurate Molecular Mass: 50kDa 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]

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                RLSWYD PDFQARLTRS NSKCQGQLEV
YKLDGWHMVC  SQSWGRSSKQ  WEDPSQASKV  CQRLNCGVPL  SLGPFLVITYT
PQSSIICYGQ  LGSFSNCSHS  RNDMCHSLGL  TCLEPQKTP  PTTRPPPTTT
PEPTAPRLQ   LVAQSGGQHC  AGVVEFYSGS  LGGTISYEAQ  DKTQDLENFL
CNNLQCGSFL  KHLPETEAGR  AQDPGEPREH  QPLPIQWKIQ  NSSCTSLEHC
FRKIKPQKSG  RVLALLCSGF  QPKVQSRLVG  GSSICEGTVE  VRQGAQWAAL
CDSSSARSSL  RWEEVCREQQ  CGSVNSYRVL  DAGDPTSRGL  FCPHQKLSQC
HELWERNSYC  KKVFTVCQDP  NP
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[ACTIVITY]

Cluster Of Differentiation 5 (CD5) is a cluster of differentiation found on a subset of IgM-secreting B cells called B-1 cells, and also on T cells. B-1 cells have limited diversity of their B-cell receptor due to their lack of the enzyme terminal deoxynucleotidyl transferase (TdT) and are potentially self-reactive. CD5 serves to mitigate activating signals from the BCR so that the B-1 cells can only be activated by a very strong stimuli (such as bacterial proteins) and not by normal tissue proteins. CD5 was used as a T-cell marker until monoclonal antibodies against CD3 were developed. In humans, the gene is located on the long arm of chromosome 11. T cells express higher levels of CD5 than B cells. CD5 is upregulated on T cells upon strong activation. Cluster Of Differentiation 19 (CD19)

has a remarkably high affinity for CD5, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human CD5 and recombinant mouse CD19. Briefly, biotin-linked CD5 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul were then transferred to CD19-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 µl stop solution to the wells and read at 450 nm immediately. The binding activity of recombinant human CD5 and recombinant mouse CD19 was shown in Figure 1, the EC50 for this effect is 10.6 ug/mL.

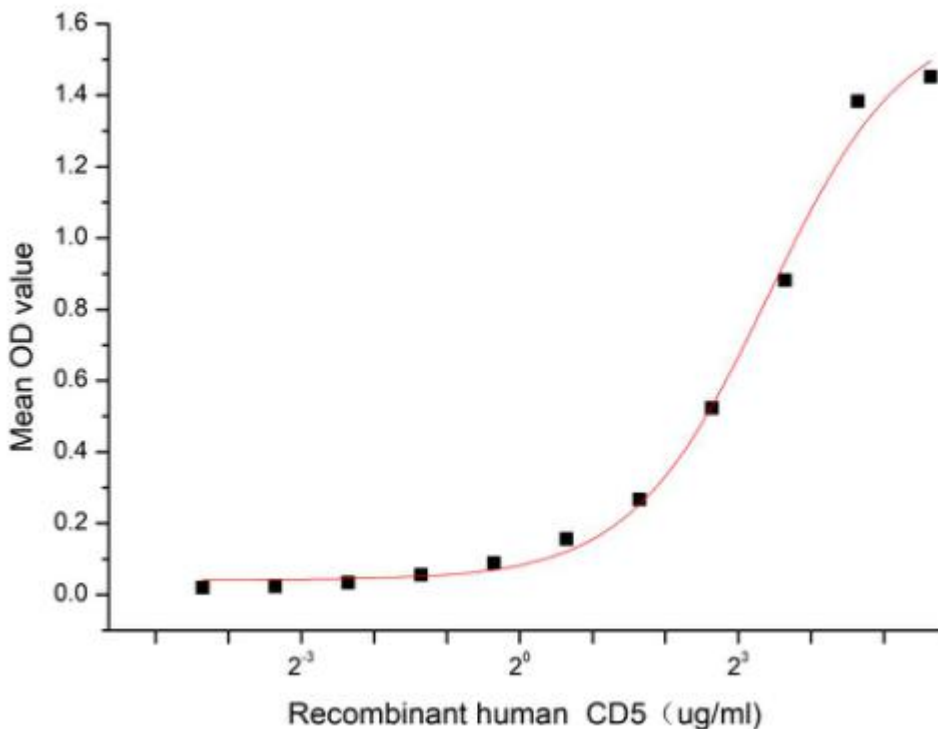


Figure 1. The binding activity of recombinant human CD5 and recombinant mouse CD19

[IDENTIFICATION]

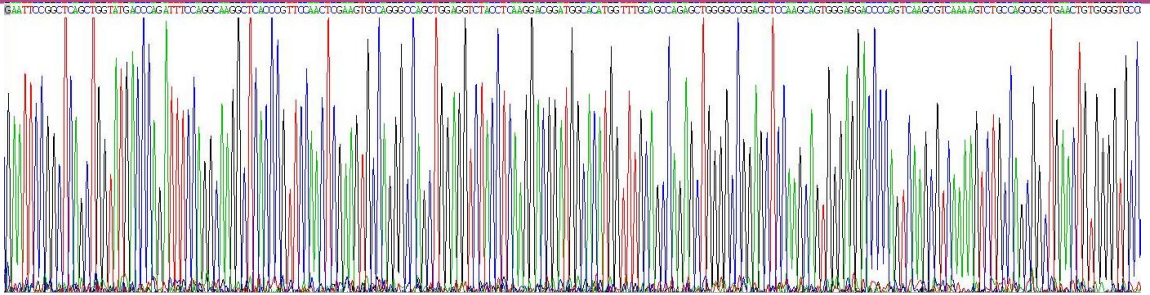


Figure 2. Gene Sequencing (extract)

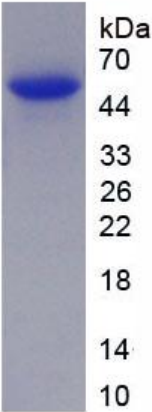


Figure 3. SDS-PAGE

Sample: Active recombinant CD5, 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.