

APA055Mu61 100µg
Active Insulin Like Growth Factor Binding Protein 4 (IGFBP4)
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: Asp22~Glu254

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: 7.0

Predicted Molecular Mass: 27.4kDa

Accurate Molecular Mass: 35kDa 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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DEAIHCPPC SEEKLARCRP PVGCEELVRE PGCGCCATCA  
LGLGMPCGVY TPRCGSGMRC YPPRGVEKPL RTLMHGQGV C TELSEIEAIQ ESLQTS DKDE  
SEHPNNSFNP CSAHDHRC LQ KHM AKIRDRS KMKIVGTPRE EPRVPQ GSC QSELH RALER  
LAASQSRTHE DLFIIPINC DRNGNFHPKQ CHPALDGQRG KCWCVDRKTG VKLPGGLEPK  
GELDCHQLAD SFQE
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[ACTIVITY]

Insulin-like Growth Factor Binding Protein 4 (IGFBP4) is a member of the IGFBP family, which regulates the bioavailability and activity of insulin-like growth factors (IGFs) in various tissues. IGFBP4 binds to IGF-1 and IGF-2 with high affinity, modulating their interaction with IGF receptors and thus influencing cell proliferation, differentiation, and survival. It plays critical roles in growth, development, and metabolic processes. Unlike some other IGFBPs, IGFBP4 is unique in its ability to inhibit IGF actions unless cleaved by specific proteases like PAPP-A, which releases IGFs for receptor activation. To detect the activity of recombinant mouse IGFBP4, a functional ELISA assay was performed to evaluate the interaction between recombinant mouse IGFBP1 and recombinant chicken IGF-1. Briefly, IGFBP4 was diluted serially in PBS with 0.01% BSA (pH 7.4).

Duplicate samples of 100 μ l were then transferred to IGF-1-coated microtiter wells and incubated for 1h at 37 °C. Wells were washed with PBST and incubated for 1h with anti-IGFBP4 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 μ L stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant mouse IGFBP1 and recombinant chicken IGF-1 was shown in Figure 1, the EC₅₀ for this effect is 0.34 μ g/mL.

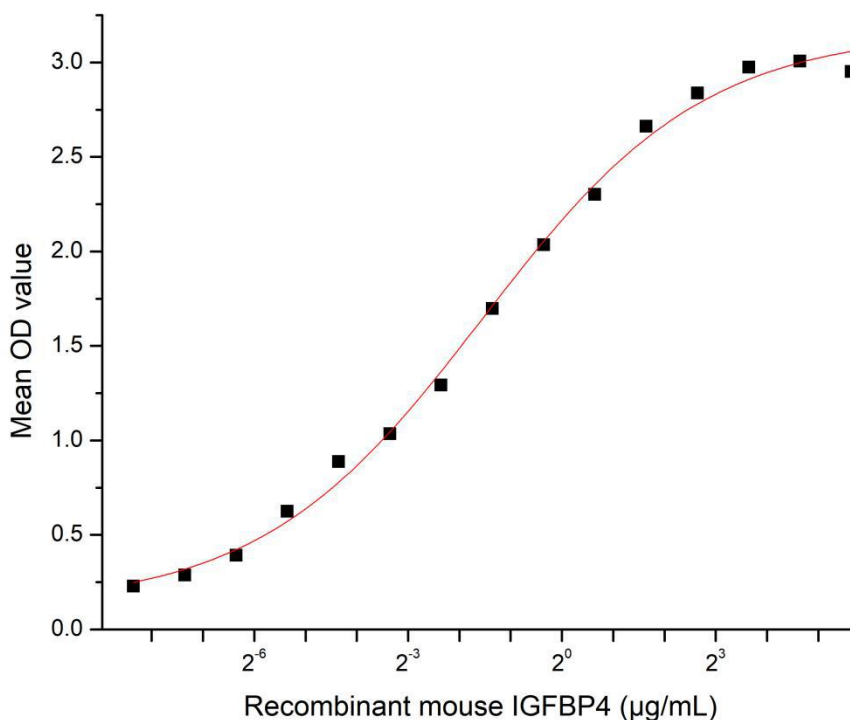


Figure 1. The binding activity of recombinant mouse IGFBP4 and recombinant chicken IGF-1

[IDENTIFICATION]

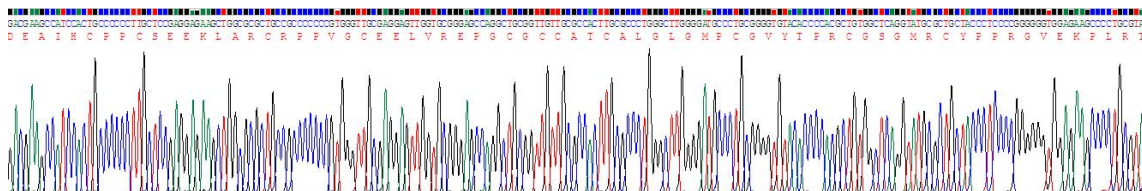


Figure 2. Gene Sequencing (extract)

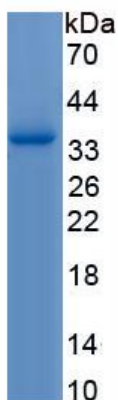


Figure 3. SDS-PAGE

Sample: Active recombinant IGFBP4, 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.