

APA084Hu61 100µg

Active Leptin (LEP)

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: Val22~Cys167

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: Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 6.1

Predicted Molecular Mass: 17.6kDa

Accurate Molecular Mass: 15kDa as determined by SDS-PAGE reducing conditions.

[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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VPIQKVQDD TKTLIKTIIVT RINDISHTQS  
VSSKQKVTGL DFIPGLHPIL TLSKMDQTLA VYQQILTSMP SRNVIQISND  
LENLRDLLHV LAFSKSCHLP WASGLETLDL LGGVLEASGY STEVVALSRL  
QGSLQDMLWQ LDLSPGC
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[ACTIVITY]

Leptin (LEP) is a 16 kDa adipokine primarily produced by white adipose tissue. Encoded by the LEP gene, it circulates in the bloodstream and acts as a key regulator of energy homeostasis. Leptin signals through the leptin receptor (LEPR), with the long isoform (LEPRb) being crucial for mediating its effects. The hormone travels to the brain, particularly the hypothalamus, where it inhibits appetite and increases energy expenditure, creating a negative feedback loop between fat stores and the central nervous system. Beyond energy regulation, leptin influences reproduction, immune function, and bone metabolism. Its discovery revolutionized the understanding of obesity, revealing the role of hormonal communication between the body's periphery and the brain. Besides, Suppressors Of Cytokine Signaling 3 (SOCS3) has been identified as an interactor of LEP, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human LEP and recombinant mouse SOCS3. Briefly, LEP was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to SOCS3-coated microtiter wells and incubated for 1h at 37 °C . Wells were washed with PBST and incubated for 1h with anti-LEP 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 human LEP and recombinant mouse SOCS3 was shown in Figure 1,

and this effect was in a dose dependent manner.

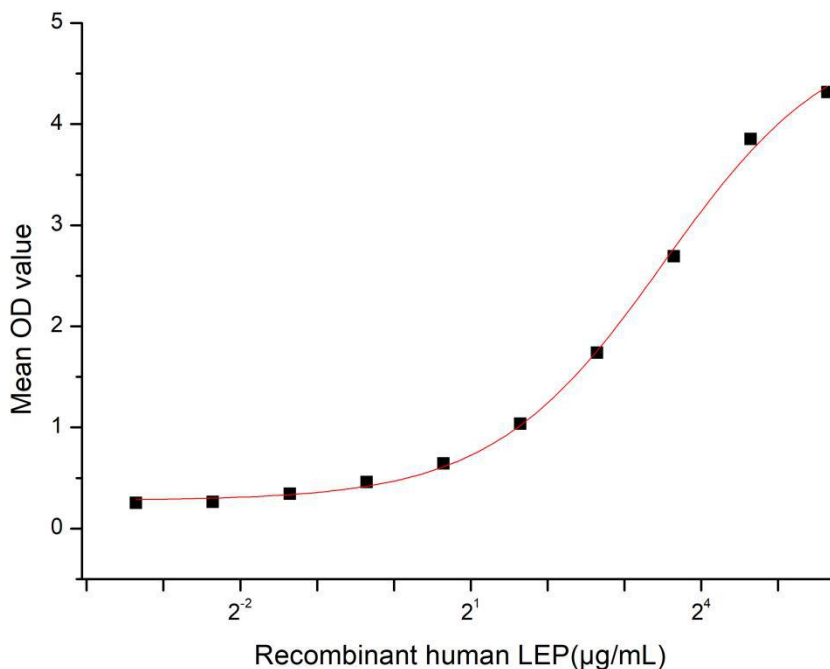


Figure 1. The binding activity of recombinant human LEP and recombinant mouse SOCS3

[IDENTIFICATION]

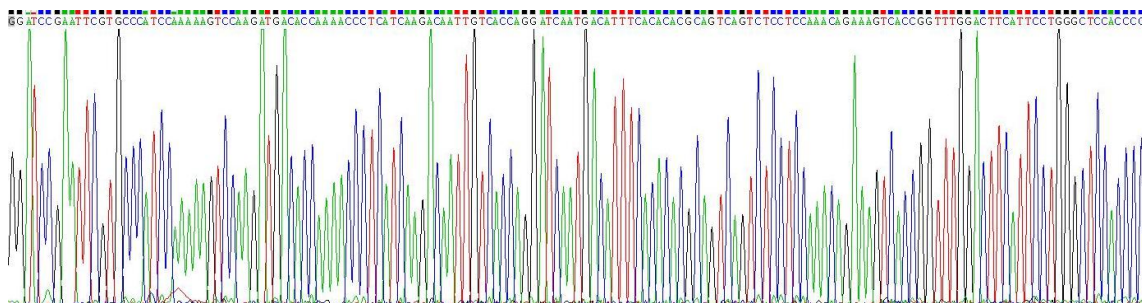


Figure 2. Gene Sequencing (extract)

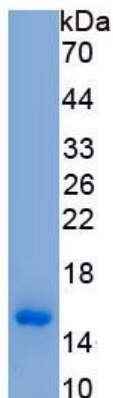


Figure 3. SDS-PAGE

Sample: Active recombinant LEP, 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.