

**APA084Mu01 100µg**

**Active Leptin (LEP)**

**Organism Species: *Mus musculus (Mouse)***

***Instruction manual***

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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13th Edition (Revised in Aug, 2023)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Val22~Cys167

**Tags:** N-terminal His-tag

**Purity:** >90%

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

**Buffer Formulation:** PBS, pH7.4, containing 0.01% SKL, 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:** 8.4

**Predicted Molecular Mass:** 21.7kDa

**Accurate Molecular Mass:** 25kDa 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 ]

```
VPIQKVQDD TKTLIKTIIVT RINDISHTQS  
VSAKQRVTGL DFIPGLHPIL SLSKMDQTLA VYQQVLTSLP SQNVLQIAND  
LENLRDLLHL LAFSKSCSLP QTSGLQKPES LDGVLEASLY STEVVALSRL  
QGSLQDILQQ LDVSPEC
```

## [ ACTIVITY ]

Leptin is a hormone made by adipose cells that helps to regulate energy balance by inhibiting hunger. Many of leptin's effects are mediated through neuropeptide-containing neurons and neuropeptide receptors in the hypothalamus. Although regulation of fat stores is deemed to be the primary function of leptin, it also plays a role in other physiological processes, as evidenced by its multiple sites of synthesis other than fat cells, and the multiple cell types beside hypothalamic cells that have leptin receptors. A functional binding ELISA assay was conducted to detect the interaction of recombinant mouse LEP and recombinant human LEPR. Briefly, LEP were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100 ul were then transferred to LEPR-coated microtiter wells and incubated for 2h 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, wells were aspirated and washed 3 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 of LEP and LEPR was shown in Figure 1,

the EC50 for this effect is 0.26 ug/mL.

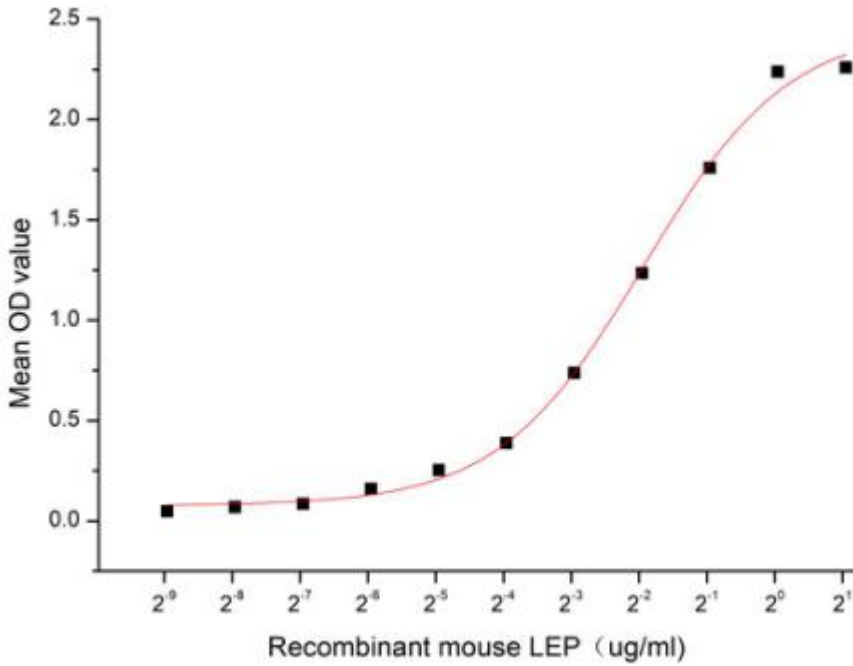


Figure 1. The binding activity of recombinant mouse LEP and recombinant human LEPR

## [ IDENTIFICATION ]

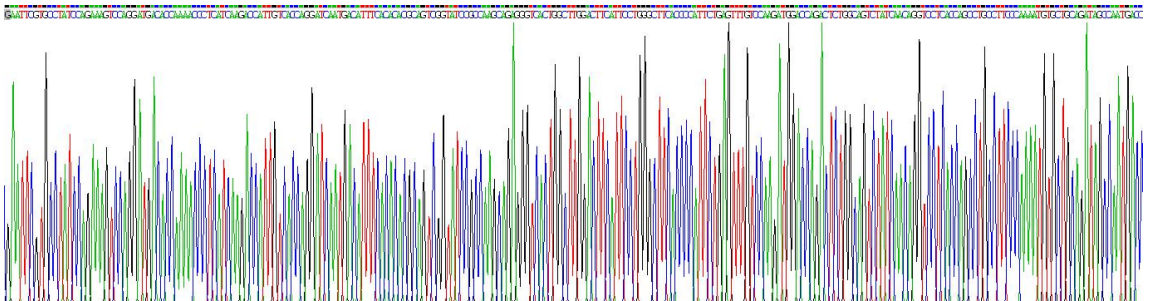
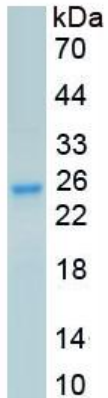


Figure 2. Gene Sequencing (extract)



**Figure 3. SDS-PAGE**

**Sample: Active recombinant LEP, 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.