**APA679Mu01 100μg**
**Active Protein Kinase, AMP Activated Alpha 1 (AMPK Alpha 1)**
**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:** Prokaryotic expression.
**Host:** *E. coli*
**Residues:** Ile28~Lys257
**Tags:** N-terminal His-tag
**Purity:** >90%
**Endotoxin Level:** <1.0EU per 1μg (determined by the LAL method).
**Buffer Formulation:** 20mM Tris, 150mM NaCl, pH8.0, containing 0.01% skl, 5%Trehalose.
**Original Concentration:** 100μg/mL
**Applications:** Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
**Predicted isoelectric point:** 8.5
**Predicted Molecular Mass:** 29.6kDa
**Accurate Molecular Mass:** 31kDa as determined by SDS-PAGE reducing conditions.

## [ USAGE ]

Reconstitute in dd$H_2O$ to a concentration of 0.1-0.5 mg/mL. Do not vortex.

## [ STORAGE AND STABILITY ]

**Storage:** Avoid repeated freeze/thaw cycles.
Store at 2-8$^oC$ for one month.
Aliquot and store at -80$^oC$ 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 37ºC 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 ]

ILGDTLGVGTFGKVKVGKHELTGHKVAVKILNRQKIRSLDVVGKIRREIQNLKLFRHPHIIKLYQVISTPSDIFMVMEYVSGGELFDYI
CKNGRLDEKESRRLFQQILSGVDYCHRHMVVHRDLKPENVLLDAHMNAKIADFGLSNMMSDGEFLRTSCGSPNYAAPEVISGRLYAGPE
VDIWSSGVILYALLCGTLPFDDDHVPTLFKKICDGIFYTPQYLNPSVISLLK

## [ ACTIVITY ]

AMPK alpha 1, also known as AMP-activated protein kinase alpha 1 subunit, is a crucial enzyme that plays a significant role in energy metabolism. It is is involved in regulating several metabolic processes, including glucose and fatty acid uptake, oxidation, and storage. It promotes energy-producing pathways, such as glycolysis, fatty acid oxidation, and mitochondrial biogenesis, while inhibiting energy-consuming processes, like protein synthesis and lipogenesis. Besides, PRKAb1 has been identified as an interactor of AMPK Alpha 1, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant mouse AMPK Alpha 1 and recombinant human PRKAb1. Briefly, AMPK Alpha 1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to PRKAb1-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-AMPK Alpha 1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630 nm immediately. The binding activity of recombinant mouse AMPK Alpha 1 and recombinant human PRKAb1 was shown in Figure 1, the EC50 for this effect is 0.94 ug/mL.

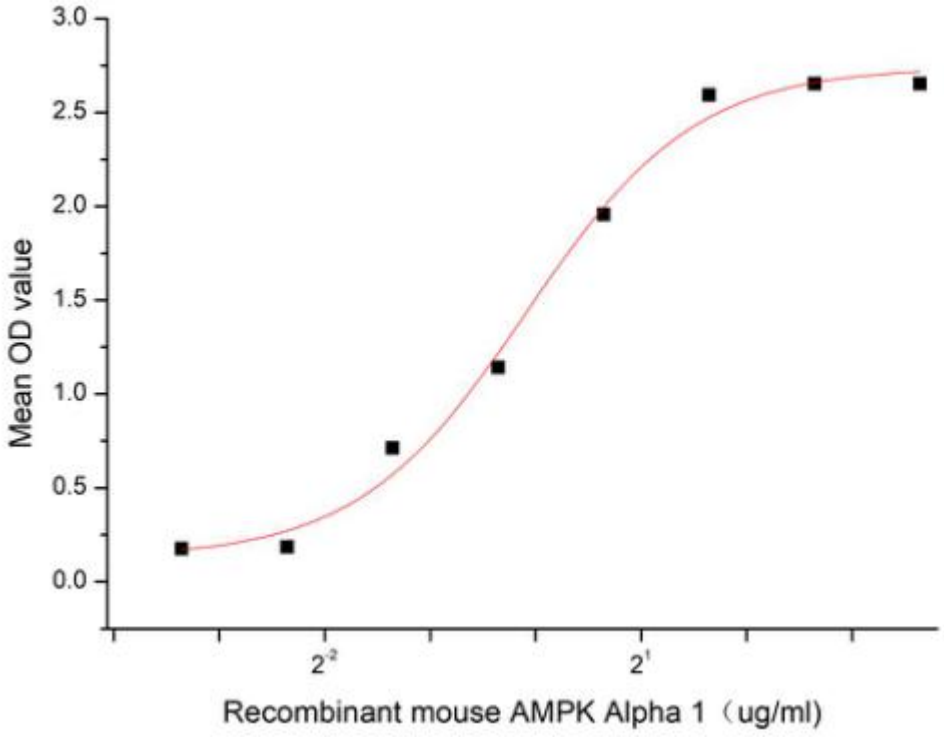


**Figure 1. The binding activity of recombinant mouse AMPK Alpha 1 and recombinant human PRKAb1**

## [ IDENTIFICATION ]

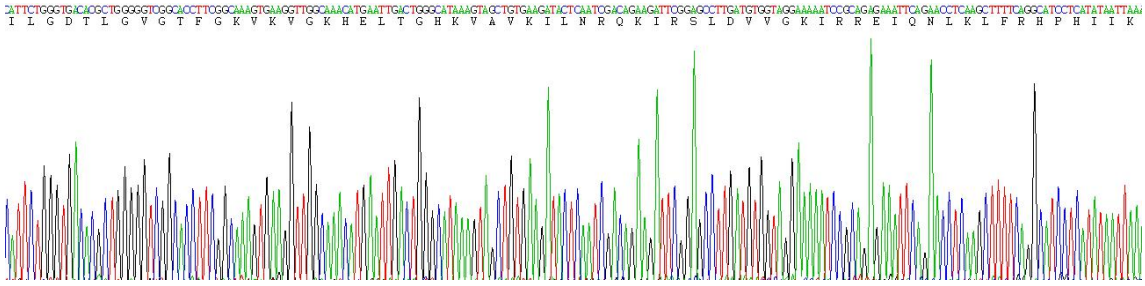

**Figure 2. Gene Sequencing (extract)**

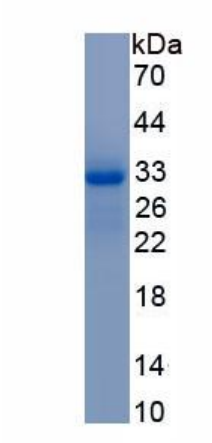


**Figure 3. SDS-PAGE**

**Sample: Active recombinant AMPK Alpha 1, 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.