

**APC030Hu01 100µg**

**Active Creatine Kinase, Brain (CKB)**

**Organism Species: *Homo sapiens* (Human)**

***Instruction manual***

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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1th Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Lys11~Leu367

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

**Purity:** >95%

**Buffer Formulation:** 20mM Tris, 150mM NaCl, pH8.0, containing 0.05% sarcosyl and 5% trehalose.

**Applications:** Cell culture; Activity Assays.

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

**Predicted isoelectric point:** 5.7

**Predicted Molecular Mass:** 41.3kDa

**Accurate Molecular Mass:** 41kDa as determined by SDS-PAGE reducing conditions.

## **[ USAGE ]**

Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) 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.

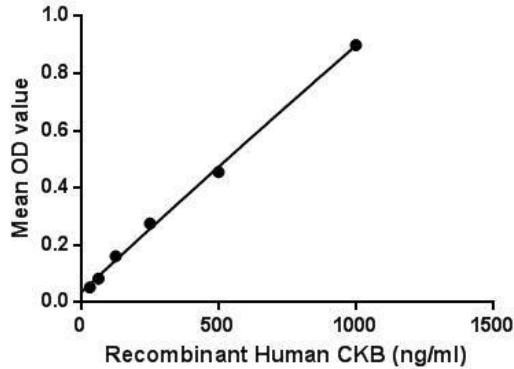
## **[ SEQUENCE ]**

```
      KLRFPAEDEF  PDLSAHNNHM  AKVLTPELYA  ELRAKSTPSG
FTLDDVIQTG  VDNPGHPYIM  TVGCVAGDEE  SYEVFKDLFD  PIIEDRHGGY
KPSDEHKTDL  NPDNLQGGDD  LDPNYVLSSR  VRTGRSIRGF  CLPPHCSRGE
RRAIEKLAVE  ALSSLDGDLA  GRYYALKSMT  EAEQQQLIDD  HFLFDKPVSP
LLLASGMARD  WPDARGIWHN  DNKTFLVWVN  EEDHLRVISM  QKGGNMKEVF
TRFCTGLTQI  ETLFKSKDYE  FMWNPFLGYI  LTCPSNLGTG  LRAGVHIKLP
NLGKHEKFSE  VLKRLRLQKR  GTGGVDTAAV  GGVFDVSNAD  RLGfSEVELV
QMVVDGVKLL  IEMEQRL
```

## **[ ACTIVITY ]**

Creatine Kinase, Brain (CKB) consists of a homodimer of two identical brain-type CK-B subunits. CKB is a cytoplasmic enzyme involved in cellular energy homeostasis, with certain fractions of the enzyme being bound to cell membranes, ATPases, and a variety of ATP-requiring enzymes in the cell. The protein reversibly catalyzes the transfer of "energy-rich" phosphate between ATP and creatine or between phospho-creatine (PCr) and ADP. Besides, Fusion (FUS) has been identified as an interactor of CKB, thus a binding ELISA assay was conducted to detect the interaction of recombinant human CKB and recombinant human FUS. Briefly, CKB were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100µL were then transferred to FUS-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-CKB pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody, wells were aspirated and washed 3 times. With the

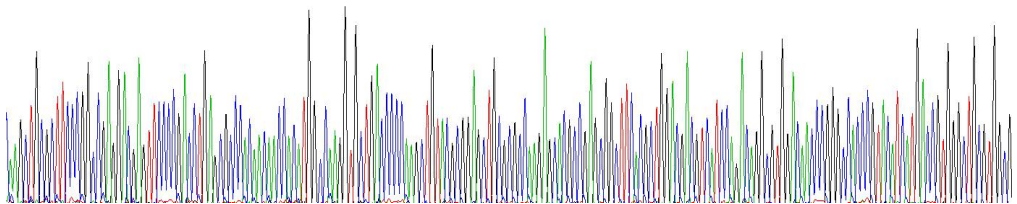
addition of substrate solution, wells were incubated 15-25 minutes at 37°C. Finally, add 50µL stop solution to the wells and read at 450nm immediately. The binding activity of CKB and FUS was shown in Figure 1, and this effect was in a dose dependent manner.



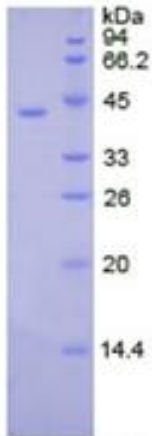
**Figure 1. The binding activity of CKB with FUS.**

## [ IDENTIFICATION ]

2AGCTGGGCTTODGGGCGAGGEGHGTTCDDGACCTGAGCGCGCAGAGCAGCAGTGGCGAGCTGCTGACCGCGAGCTGCTGAGCGGAGCTGGGAGCTGGGAGCGAGCGCGAGCGGCTTCAGCGCTGGAGCGCTCATODGAGCAGCGGCTGGAGCAGCGGCGCGCGCTGACATATGACCGTGGGCTGGCTGGG  
 K I R F F A E D E F P D L S A H N N H A K V L T P K L Y A E L R A K S T P S G F T L D D V I Q T G V D N P G H P Y I M T V G C V A

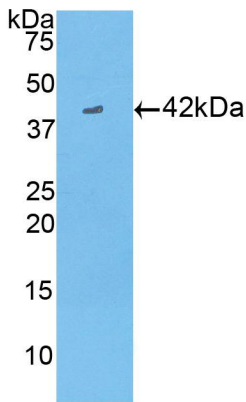


**Figure 2. Gene Sequencing (extract)**



**Figure 3. SDS-PAGE**

**Sample: Active recombinant CKB, Human**



**Figure 4. Western Blot**

**Sample: Recombinant CKB, Human;**

**Antibody: Rabbit Anti-Human CKB Ab (PAC030Hu01)**

### **[ IMPORTANT NOTE ]**

The kit is designed for in vitro and research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.