

**APC150Mu03 100µg**

**Active Collagen Type VI Alpha 1 (COL6a1)**

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

***Instruction manual***

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

---

---

1st Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Asn82~Phe212

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

**Purity:** >95%

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

**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:** 6.3

**Predicted Molecular Mass:** 15.8kDa

**Accurate Molecular Mass:** 16kDa 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.

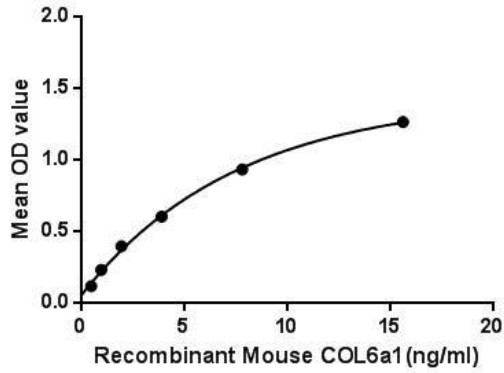
**Stability Test:** The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

### **[ SEQUENCE ]**

```
                                NLVWNAGAL HYSDEVEIIR  
GLTRMPSGRD ELKASVDAVK YFGKGYTDC AIKKGLEELL IGGSHLKENK  
YLIVVTDGHP LEGYKEPCGG LEDAVNEAKH LGIKVFSVAI TPDHLEPRLS  
IIATDHTYRR NF
```

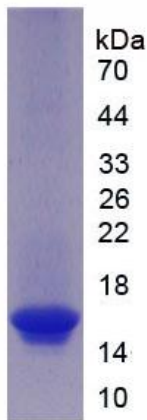
### **[ ACTIVITY ]**

The collagens are a superfamily of proteins that play a role in maintaining the integrity of various tissues. Collagen VI is a major structural component of microfibrils. The basic structural unit of collagen VI is a heterotrimer of the alpha1(VI), alpha2(VI), and alpha3(VI) chains. The protein encoded by COL6a1 gene is the alpha 1 subunit of type VI collagen (alpha1(VI) chain). Mutations in the genes that code for the collagen VI subunits result in the autosomal dominant disorder, Bethlem myopathy. Besides, Retbindin (RTBDN) has been identified as an interactor of COL6a1, thus a binding ELISA assay was conducted to detect the interaction of recombinant mouse COL6a1 and recombinant mouse RTBDN. Briefly, COL6a1 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100uL were then transferred to RTBDN-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-COL6a1 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 COL6a1 and RTBDN was shown in Figure 1, and this effect was in a dose dependent manner.



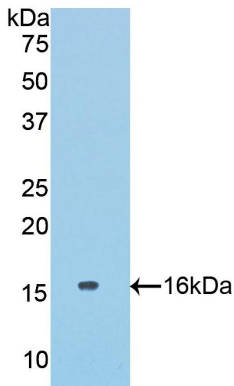
**Figure 1. The binding activity of COL6a1 with RTBDN.**

## **[ IDENTIFICATION ]**



**Figure 2. SDS-PAGE**

**Sample: Active recombinant COL6a1, Mouse**



**Figure 3. Western Blot**

**Sample: Recombinant COL6a1, Mouse;**

**Antibody: Rabbit Anti-Mouse COL6a1 Ab (PAC150Mu03)**

### **[ 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.