

**APA819Mu01 100µg**  
**Active Parathyroid Hormone Related Protein (PTHrP)**  
**Organism Species: Mus musculus (Mouse)**  
***Instruction manual***

FOR IN VITRO USE AND RESEARCH USE ONLY  
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

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1st Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Ala37~His175

**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:** 10.1

**Predicted Molecular Mass:** 17.4kDa

**Accurate Molecular Mass:** 18&19kDa as determined by SDS-PAGE reducing conditions.

### **Phenomenon explanation:**

The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

## [ 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.

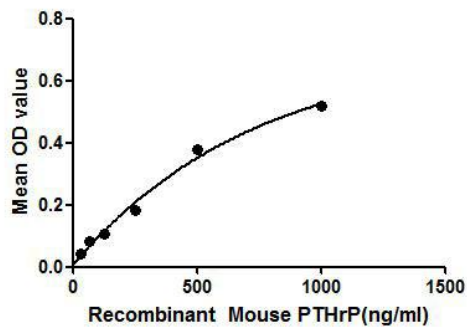
## [ SEQUENCE ]

AVSE HQLLHDKGKS  
IQDLRRRFFL HHLIAEIHHTA EIRATSEVSP NSKPAPNTKN HPVRFSGSDE  
GRYLTQETNK VETYKEQPLK TPGKKKKGKP GKRREQEKKK RRTRSAWPST  
AASGLLEDPL PHTSRTSLEP SLRTH

## [ ACTIVITY ]

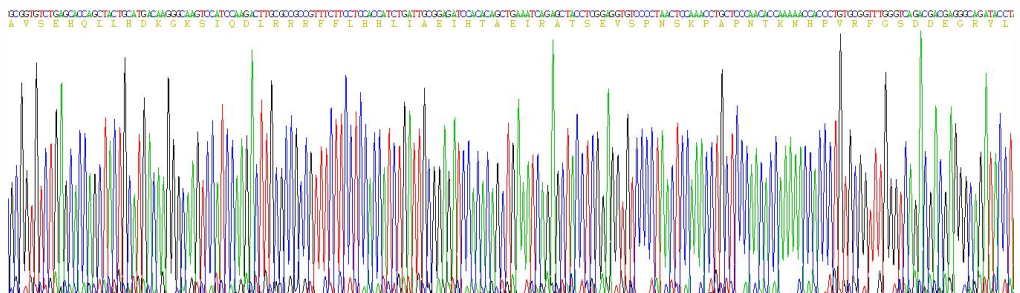
PTHrP (Parathyroid Hormone Related Protein ) is a neuroendocrine peptide which is a critical regulator of cellular and organ growth, development, migration, differentiation and survival and of epithelial calcium ion transport. Regulates endochondral bone development and epithelial-mesenchymal interactions during the formation of the mammary glands and teeth. A binding ELISA assay was conducted to detect the association of PTHrP with PTHR1. Briefly, PTHrP were diluted serially in PBS, with 0.01%BSA (pH 7.4). Duplicate samples of 100uL PTHrP were then transferred to PTHR1-coated microtiter wells and incubated for 2h at 37°C. Wells were washed with PBST and incubated for 1h with anti-PTHrP

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 PThrP and PTHR1 was shown in Figure 1, and this effect was in a dose dependent manner.

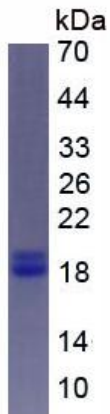


**Figure 1. The binding activity of PTHrP with PTHR1.**

## **[ IDENTIFICATION ]**

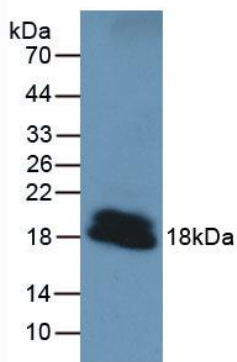


**Figure 2. Gene Sequencing (extract)**



**Figure 3. SDS-PAGE**

**Sample: Active recombinant PTHrP, Mouse**



**Figure 4. Western Blot**

**Sample: Recombinant PTHrP, Mouse;**

**Antibody: Rabbit Anti-Mouse PTHrP Ab (PAA819Mu01)**