

**APA071Hu01 100µg**  
**Active Interleukin 1 Alpha (IL1a)**  
**Organism Species: Homo sapiens (Human)**  
***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:** Ser113~Ala271

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

**Purity:** >98%

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

**Applications:** Cell culture; Activity Assays; In vivo assays.

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

**Predicted isoelectric point:** 6.5

**Predicted Molecular Mass:** 21.2kDa

**Accurate Molecular Mass:** 21kDa 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.

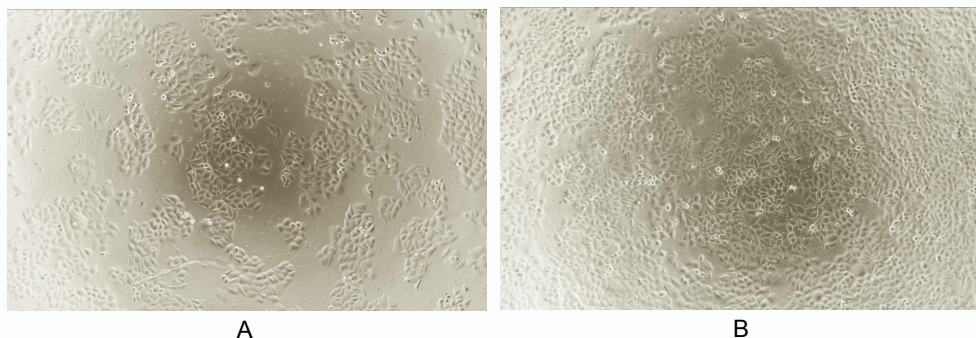
## **[ SEQUENCE ]**

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SAPFSFLS NVKYNFMRII KYEFILNDAL NQSIIRANDQ
YLTAALHNL DEAVKFDMGA YKSSKDDAKI TVILRISKTQ LYVTAQDEDQ
PVLLKEMPEI PKTITGSETN LLFFWETHGT KNYFTSVAHP NLFIA TKQDY
WVCLAGGPPS ITDFQILENQ A
```

## **[ ACTIVITY ]**

IL1 $\alpha$  (Interleukin-1 alpha) is a member of the interleukin 1 cytokine family. This cytokine is produced by monocytes and macrophages as a proprotein, which is proteolytically processed and released in response to cell injury, and thus induces cell apoptosis. It is reported that exposure of MCF-7 cells to certain concentration of IL1 $\alpha$  results in inhibition of cell growth. Thus, a cell proliferation assay of MCF-7 was conducted with the addition of IL1 $\alpha$ . MCF-7 cells were seeded overnight at a density of 5,000 cells/well, and then treated with or without various concentrations of IL1 $\alpha$  for 72h, then cells were observed by inverted microscope and cell viability was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10 $\mu$ L of CCK-8 solution was added to each well of the plate, then measure the absorbance at 450nm using a microplate reader after incubating the plate for 1-4 hours in at 37°C.

Inhibition of MCF-7 cell proliferation after incubation with IL1 $\alpha$  for 72h observed by inverted microscope was shown in Figure 1.

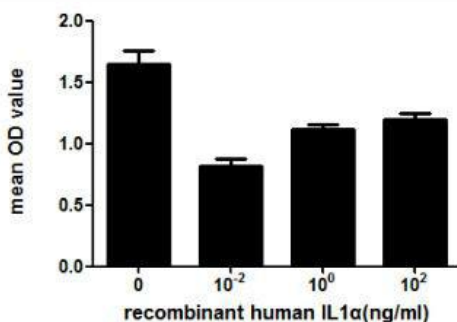


**Figure 1. Inhibitory effect of IL1 $\alpha$  on cell proliferation of MCF-7 cells.**

**(A) MCF-7 cells cultured in DMEM, stimulated with 1ng/mL IL1 $\alpha$  for 72h;**

**(B) Unstimulated MCF-7 cells cultured in DMEM for 72h.**

Cell viability was assessed by CCK-8 (Cell Counting Kit-8) assay after incubation with various concentrations of IL1 $\alpha$  for 72h. The mean OD value of MCF-7 assessed by CCK-8 was shown in Figure 2. It was obvious that IL1 $\alpha$  significantly decreased cell viability of MCF-7 cells.



**Figure 2. Inhibitory effect of IL1 $\alpha$  on cell proliferation of MCF-7 cells.**

## [ IDENTIFICATION ]

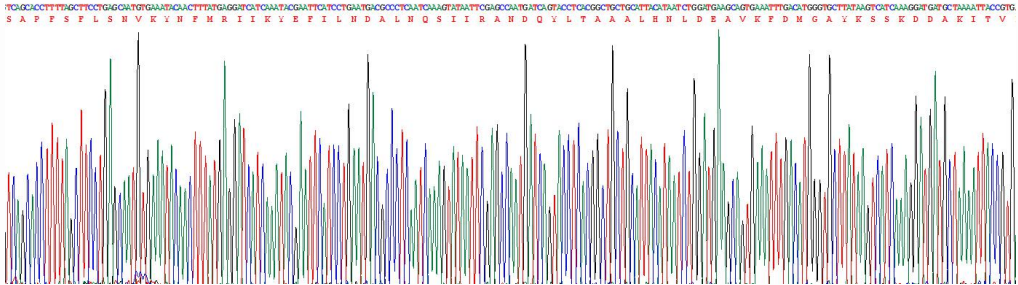


Figure 3. Gene Sequencing (extract)

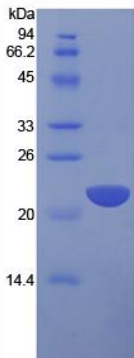


Figure 4. SDS-PAGE

Sample: Active recombinant IL1a, Human

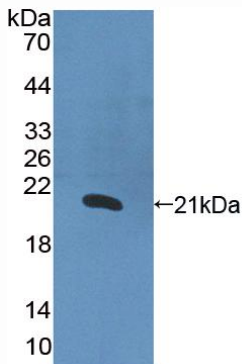


Figure 5. Western Blot

Sample: Recombinant IL1a, Human;

Antibody: Rabbit Anti-Human IL1a Ab (PAA071Hu01)