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

1th 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 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]

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        SAPFSFLS NVKYNFMRII KYEFILNDAL NQSIIRANDQ
YLTAAALHNL DEAVKFDMGA YKSSKDDAKI TVILRISKTQ LYVTAQDEDQ
PVLLKEMPEI PKTITGSETN LLFFWETHGT KNYFTSVAHP NLFIATKQDY
WVCLAGGPPS ITDFQILENQ A
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[ACTIVITY]

IL1α (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 IL1α results in inhibition of cell growth. Thus, an cell proliferation assay of MCF-7 was conducted with the addition of IL1α. MCF-7 cells were seeded overnight at a density of 5,000 cells/well, and then treated with or without various concentrations of IL1α for 72h, then cells were observed by inverted microscope and cell viability was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10µL 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 IL1α for 72h observed by inverted microscope was shown in Figure 1.
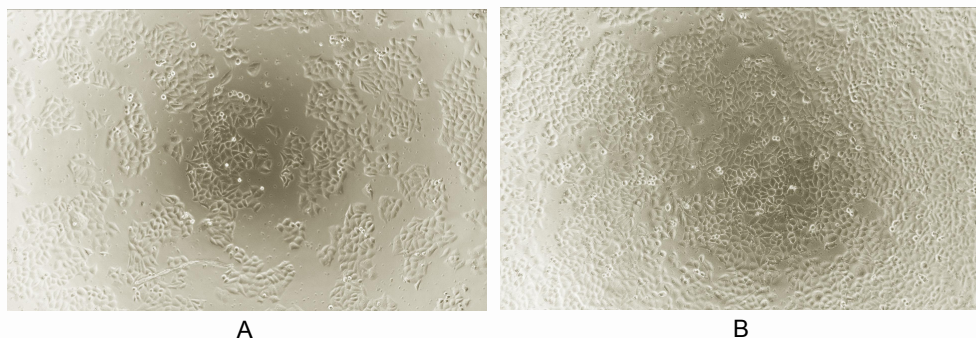
A   B

Figure 1. Inhibitory effect of IL1α on cell proliferation of MCF-7 cells.

(A) MCF-7 cells cultured in DMEM, stimulated with 1ng/mL IL1α 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 IL1α for 72h. The mean OD value of MCF-7 assessed by CCK-8 was shown in Figure 2. It was obvious that IL1α significantly decreased cell viability of MCF-7 cells.
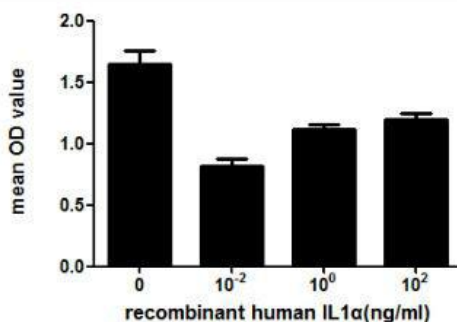

Figure 2. Inhibitory effect of IL1α on cell proliferation of MCF-7 cells.
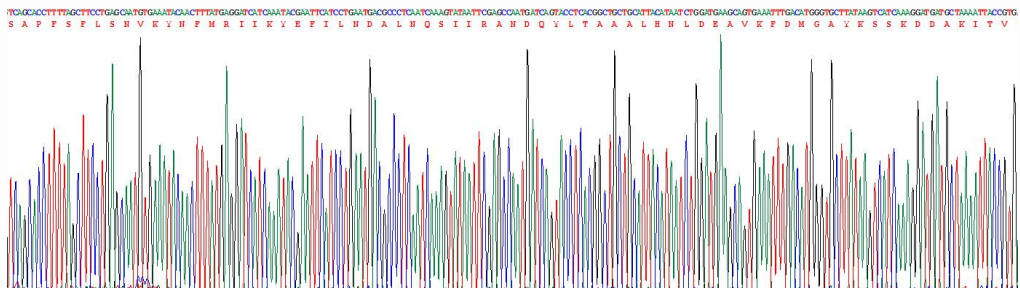
[IDENTIFICATION]

TCAGCACCTTTTAGCTTCCTGAGCATGTGAAATACAACTTTATGAGGATCATCAAATACGAATTCATCCTGAATGACGCCCTCAATCAAAGTATAATTCGAGCCAATGATCAGTACCTCACGGCTGCTGCATTACATAATCTGGATGAAGCAGTGAAATTTGACATGGGTGCTTATAAGTCATCAAAGGATGATGCTAAAATTACCGTG.

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

Figure 3. Gene Sequencing (extract)
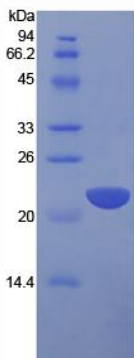

Figure 4. SDS-PAGE

Sample: Active recombinant IL1a, Human
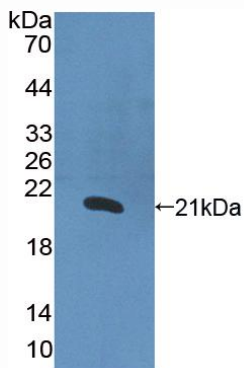

←21kDa

Figure 5. Western Blot

Sample: Recombinant IL1a, Human;

Antibody: Rabbit Anti-Human IL1a Ab (PAA071Hu01)