APA133Mu01 400µg
Active Tumor Necrosis Factor Alpha (TNFa)
Organism Species: Mus musculus (Mouse)

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

1st Edition (Apr, 2016)

[ PROPERTIES ]
Source: Prokaryotic expression.
Host: E. coli
Residues: Leu80~Leu235
Tags: N-terminal His-tag
Purity: >95%
Buffer Formulation: 20mM Tris, 150mM NaCl, pH8.0, containing 0.01% sarcosyl, 5% trehalose.
Predicted isoelectric point: 5.0
Predicted Molecular Mass: 20.5kDa
Accurate Molecular Mass: 21kDa as determined by SDS-PAGE reducing conditions.
Applications: Cell culture; Activity Assays; In vivo assays.
(May be suitable for use in other assays to be determined by the end user.)

[ 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 ]

L RSSLQNSSDK PVAHVVAHNLQ SVEQWLEWSQ RANALLANGM DLKDNLQVVP ADGLYLVYSQ VLFKGQGCPD YVLLTHVSR FAISYQKVN LLSAVKSCP KDTPEGAELK PWYEPITYLGG VFLQLEKGQL SAEVNLPKYL DFAESGQVYFGVIAL

[ ACTIVITY ]

TNFa, being an endogenous pyrogen, is able to induce fever, apoptotic cell death, inflammation and inhibit tumorigenesis. As reported, TNFa could inhibit the proliferation and induce apoptosis of A549 cells, and the concentration of IL-1β in cell supernatant will increase after stimulation. A549 cells were incubated in DMEM with TNFa (1ng/mL, 10ng/mL) for 2h, 4h, 8h, 24h, 48h, then cells were observed by inverted microscope and IL-1β in cell supernatant was detected by ELISA. Cell apoptosis of A549 after incubation of 48h was shown in Figure 1.

![Figure 1. Cell apoptosis of A549 cells after stimulated by TNFa.](image)

(A) A549 cells cultured in DMEM, stimulated with 1ng/mL TNFa for 48h;
(B) A549 cells cultured in DMEM, stimulated with 10ng/mL TNFa for 48h;
(C) A549 cells cultured in DMEM for 48h.

Effect of TNFa on the expression of IL-1β is shown in Table 1.
Table 1. ELISA detection of IL-1β expression from A549 cells by TNFa.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Concentration of IL-1β (ng/mL)</th>
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<tbody>
<tr>
<td>Stimulated with TNFα (1ng/mL)</td>
<td>9.304</td>
</tr>
<tr>
<td>Stimulated with TNFα (10ng/mL)</td>
<td>29.064</td>
</tr>
<tr>
<td>Unstimulated</td>
<td>1.344</td>
</tr>
</tbody>
</table>

Figure 2. Gene Sequencing (extract)

Figure 3. SDS-PAGE, Sample: Active recombinant TNFa, Mouse
Figure 4. Western Blot, Sample: Recombinant TNFa, Mouse; Antibody: Rabbit Anti-Mouse TNFa Ab (PAA133Mu01)

[ 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.