APA133Hu62 100μg
Active Tumor Necrosis Factor Alpha (TNFa)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.
Host: 293F cell
Residues: Val77~Leu233
Tags: C-terminal His-tag
Purity: >95%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 5% Trehalose .
Original Concentration: 200μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 7.5
Predicted Molecular Mass: 19.0kDa
Accurate Molecular Mass: 19kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) 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]

VRSSSRTPSDKPVAHVVANPQAEGQLQWLNRRANALLANGVELRDNQLVVPSEGLYLIY
SQVLFKGQGCPSTHVLLTHTISRIAVSYQTKVNLLSAIKSPCQRETPEGAEAKPWYEPIYLG
GVFQLEKGDRLSAEINRPDYLDFAESGQVYFGIIAL

[ACTIVITY]

Tumor Necrosis Factor Alpha (TNFa) is a pro-inflammatory cytokine primarily produced by activated macrophages and immune cells. It plays a pivotal role in regulating inflammation, immune responses, and apoptosis. TNFa binds to its receptors (TNFR1/2), triggering signaling pathways such as NFkB and MAPK, which influence cell survival, proliferation, and cytokine production. Dysregulation of TNFa is associated with autoimmune diseases , cancer, and metabolic disorders.TNFa can interact with TIMP3, which inhibits TNFa-converting enzyme (TACE), thereby reducing TNFa release and modulating inflammation.Thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human TNFa and recombinant human TIMP3 . Briefly, biotin-linked TNFa were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100μl were then transferred to TIMP3-coated microtiter wells and incubated for 1h at 37 ℃ . Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μl stop solution to the wells and read at 450nm immediately. The binding activity of TNFa and TIMP3 was shown in Figure 1, the EC50 for this effect is 0.076μg/mL.

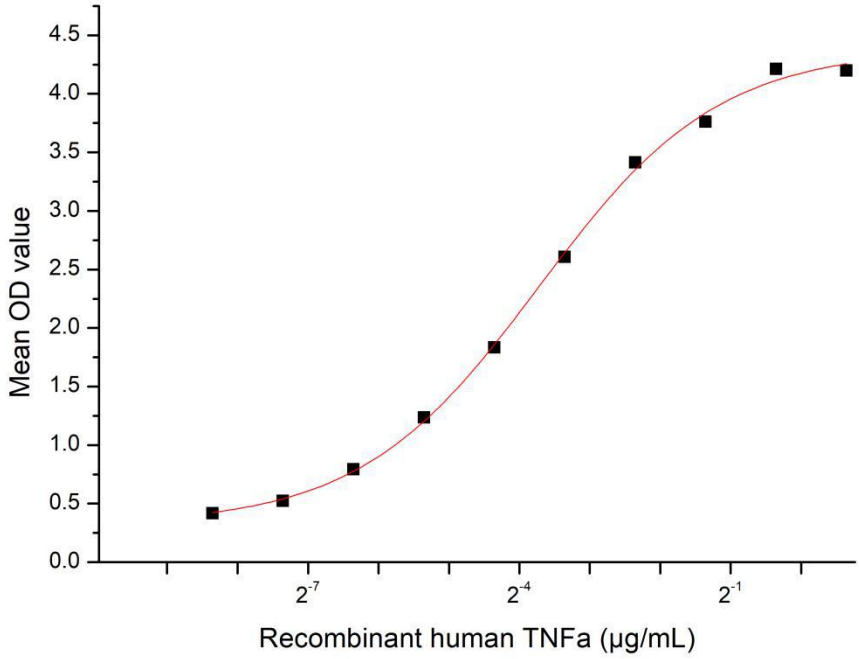

Figure 1. The binding activity of recombinant human TNFa and recombinant human TIMP3

[IDENTIFICATION]

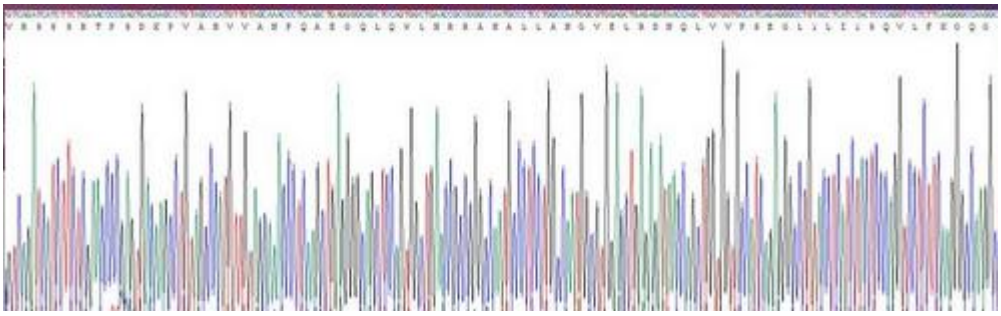

Figure 2. Gene Sequencing (extract)

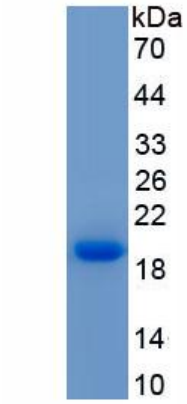

Figure 3. SDS-PAGE

Sample: Active recombinant TNFa, Human

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.