**APA133Hu61 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:** N-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 (TNFα, designated A133Hu) is a pivotal pro-inflammatory cytokine involved in immune regulation and host defense. Discovered for its ability to induce tumor cell necrosis, it is primarily secreted by activated macrophages and T lymphocytes. TNFα mediates diverse biological processes, including inflammation, cell proliferation, differentiation, and apoptosis, by binding to specific cell surface receptors. Dysregulated TNFα expression is linked to numerous inflammatory and autoimmune diseases, such as rheumatoid arthritis and Crohn's disease, making it a key therapeutic target. TNFα (A133Hu) binds directly to mouse-derived TNFRSF1B (B504Mu), initiating downstream signaling pathways that modulate immune and inflammatory responses.Thus a functional ELISA assay was conducted to detect the interaction of recombinant human TNFα and recombinant human TNFRSF1B. Briefly, TNFα was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then transferred to TNFRSF1B-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti- TNFα pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 µL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant rat TNFα and recombinant human TNFRSF1B was shown in Figure 1, the EC50 for this effect is 0.17655µg/mL.

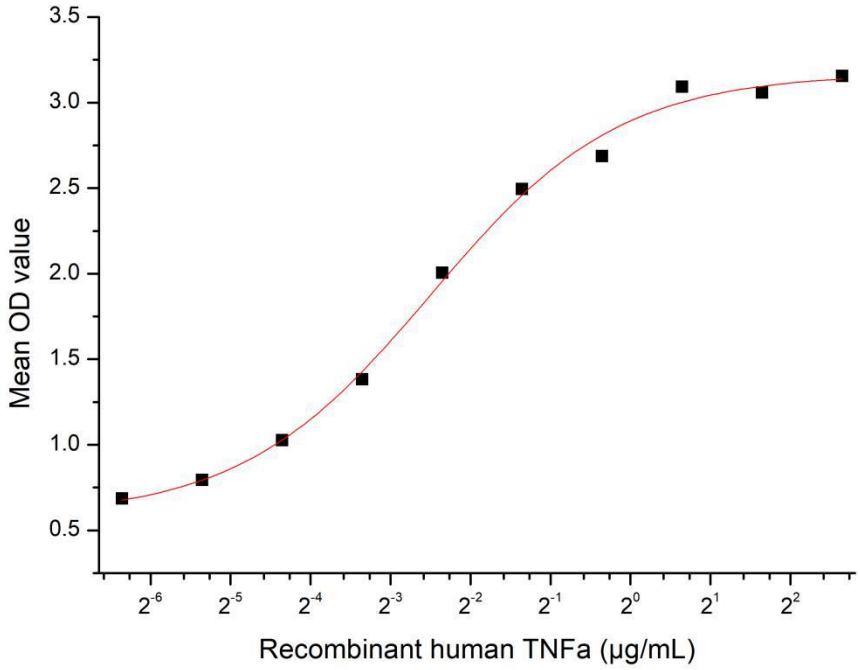


**Figure 1. The binding activity of recombinant TNFα and human TNFRSF1B**

## [ IDENTIFICATION ]

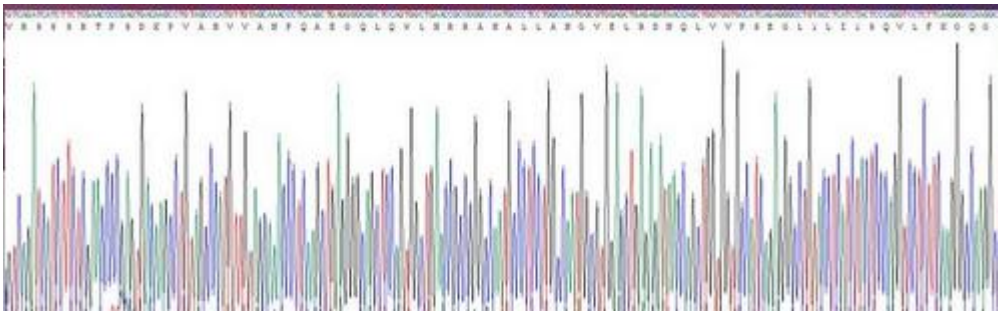

**Figure 2. Gene Sequencing (extract)**

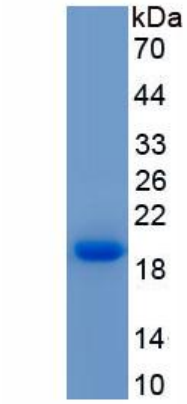


**Figure 3. SDS-PAGE**

**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.