abcam

ab100654

Human TNF alpha ELISA Kit

Key facts

Detection method	Colorimetric
Sample types	Plasma, Cell culture supernatant, Serum
Assay type	Sandwich
Reactive species	Human
Range	24.58 - 6000 pg/mL
Assay Platform	Microplate
Sensitivity	< 30 pg/mL
General recovery	94%

What's included?

1 x 96 Tests

Components

Assay Diluent A

1 x 30 mL

5X Assay Diluent B

1 x 15 mL

TMB One-Step Substrate Reagent

1 x 12 mL

TNF alpha Microplate (12 x 8 wells)

1 x 1 Unit

20X Wash Buffer

1 x 25 mL

Stop Solution

1 x 8 mL

600X HRP-Streptavidin Concentrate

1 x 200 µL

Biotinylated anti-Human TNF alpha

2 x 1 Vial

Recombinant Human TNF alpha Standard (lyophilized)

2 x 1 Vial

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	= 96.43	84 - 104 %
Serum	= 94.53	82 - 103 %
Plasma	= 91.92	80 - 102 %

Target data

See full target information TNF

Function

Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin-1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation. Impairs regulatory T-cells (Treg) function in individuals with rheumatoid arthritis via FOXP3 dephosphorylation. Up-regulates the expression of protein phosphatase 1 (PP1), which dephosphorylates the key 'Ser-418' residue of FOXP3, thereby inactivating FOXP3 and rendering Treg cells functionally defective (PubMed:23396208). Key mediator of cell death in the anticancer action of BCG-stimulated neutrophils in combination with DIABLO/SMAC mimetic in the RT4v6 bladder cancer cell line (PubMed:16829952, PubMed:22517918, PubMed:23396208). Induces insulin resistance in adipocytes via inhibition of insulin-induced IRS1 tyrosine phosphorylation and insulin-induced glucose uptake. Induces GKAP42 protein degradation in adipocytes which is partially responsible for TNF-induced insulin resistance (By similarity). Plays a role in angiogenesis by inducing VEGF production

synergistically with IL1B and IL6 (PubMed:12794819). Promotes osteoclastogenesis and therefore mediates bone resorption (By similarity). The TNF intracellular domain (ICD) form induces IL12 production in dendritic cells.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	-20°C
Appropriate long-term storage conditions	-20°C
Storage information	-20°C

Notes

Abcam's TNF alpha Human ELISA (Enzyme-Linked Immunosorbent Assay) kit is an *in vitro* enzyme-linked immunosorbent assay for the quantitative measurement of Human TNF alpha in serum, plasma and cell culture supernatants. (Human TNF alpha concentration is pretty low in normal serum/plasma, it may not be detected in this assay).
This assay employs an antibody specific for Human TNF alpha coated on a 96-well plate. Standards and samples are pipetted into the wells and TNF alpha present in a sample is bound to the wells by the immobilized antibody. The wells are washed and biotinylated anti-Human TNF alpha antibody is added. After washing away unbound biotinylated antibody, HRP conjugated streptavidin is pipetted to the wells. The wells are again washed, a TMB substrate solution is added to the wells and color develops in proportion to the amount of TNF alpha bound. The Stop Solution changes the color from blue to yellow, and the intensity of the color is measured at 450 nm.

Get higher sensitivity in only 90 minutes with Human TNF alpha ELISA Kit (ab181421) from our SimpleStep ELISA® range.

Optimization may be required with urine samples.

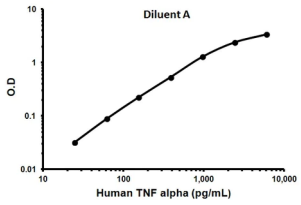
Product promise

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

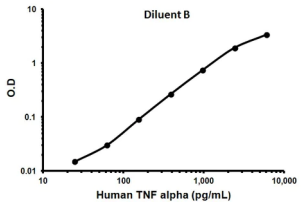
Full details and terms and conditions can be found here:
Terms & Conditions.

5 product images



Sandwich ELISA - Human TNF alpha ELISA Kit (ab100654)

Representative standard curve using ab100654



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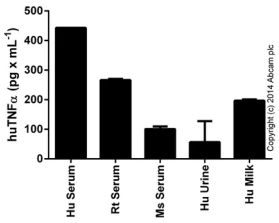
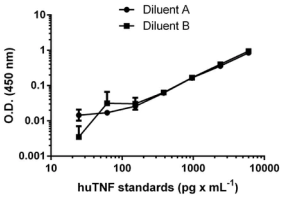


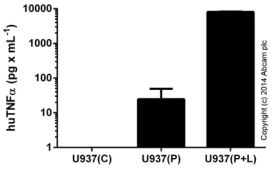
Sandwich ELISA - Human TNF alpha ELISA Kit (ab100654)

huTNFa measured in biological fluids, background signal subtracted (duplicates +/- SD).



Sandwich ELISA - Human TNF alpha ELISA Kit (ab100654)

Standard curve of huIL-8 with background signal subtracted (duplicates; +/- SD).



Sandwich ELISA - Human TNF alpha ELISA Kit (ab100654)

TNFa detected in supernatants from control cells (C) or cells stimulated for 24 hours with 50 ng x mL-1 of PMA (ab120297) (P), and PMA with the addition of 1 ug x mL-1 of LPS (Sigma) (P+L) for the last 6 hours. PBMCs were stimulated for 48 hours with 2 % PHA-M (LifeTechnologies). Results shown after background signal was subtracted (duplicates +/- SD).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.