

## Product datasheet

# Human TNF alpha ELISA Kit, Fluorescent ab229399

Recombinant CatchPoint SimpleStep ELISA

[1 References](#) [3 Images](#)

### Overview

**Product name** Human TNF alpha ELISA Kit, Fluorescent

**Detection method** Fluorescent

#### Precision

Intra-assay

Sample	n	Mean	SD	CV%
Supernatant	8			2.5%

Inter-assay

Sample	n	Mean	SD	CV%
Supernatant	3			3.1%

**Sample type**

Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma

**Assay type**

Sandwich (quantitative)

**Sensitivity**

1.23 pg/ml

**Range**

1.95 pg/ml - 8000 pg/ml

#### Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	110	105% - 113%
Serum	88	83% - 93%
Hep Plasma	98	89% - 110%
EDTA Plasma	100	95% - 104%
Cit plasma	91	86% - 97%

**Assay time**

1h 30m

**Assay duration**

One step assay

**Species reactivity****Reacts with:** Human**Product overview**

TNF-alpha *in vitro* CatchPoint SimpleStep ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of TNF-alpha protein in human serum, plasma, and cell culture supernatants.

This CatchPoint SimpleStep ELISA kit has been **optimized for Molecular Devices Microplate Readers**. Click [here](#) for a list of recommended Microplate Readers.

If using a Molecular Devices' plate reader supported by SoftMax® Pro software, a preconfigured protocol for these CatchPoint SimpleStep ELISA Kits is available with all the protocol and analysis settings at [www.softmaxpro.org](http://www.softmaxpro.org).

The CatchPoint SimpleStep ELISA employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. CatchPoint HRP Development Solution containing the Stoplight Red Substrate is added. During incubation, the substrate is catalyzed by HRP generating a fluorescent product. Signal is generated proportionally to the amount of bound analyte and the intensity is measured in a fluorescence plater reader at 530/570/590 nm Excitation/Cutoff/Emission.

**Notes**

TNF-alpha, also known as cachectin or TNFSF1A, is the prototypic ligand of the TNF superfamily which plays a central role in inflammation, apoptosis, proliferation, invasion, angiogenesis, metastasis and morphogenesis. It is expressed on macrophages, endothelial, epithelial and tumor cells as a 26kDa transmembrane protein. TNF-alpha is cleaved by proteolytic processing into six chains: (1) TNF membrane form, (2) Intracellular domain 1, (3) Intracellular domain 2, (4) C-domain 1, (5) C-domain 2 and (6) TNF soluble form. Signaling from TNF-alpha differs depending on the type of ligand initiating the signaling event (intracellular, membrane or soluble). As an example, the membrane form of TNF-alpha appears to mediate anti-tumorigenic therapeutic responses whereas the soluble ligand is linked to inflammation and proliferation.

**Platform**

Pre-coated microplate (12 x 8 well strips)

**Properties****Storage instructions**

Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
100X Stoplight Red Substrate	1 x 120µl
10X Wash Buffer PT (ab206977)	1 x 20ml
500X Hydrogen Peroxide (H2O2, 3%)	1 x 50µl
Antibody Diluent 5BI	1 x 6ml
Human TNFa Capture Antibody	2 vials
Human TNFa Detector Antibody	2 vials

Components	1 x 96 tests
Human TNFa Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent 50BP	1 x 20ml
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated Black 96-Well Microplate	1 unit
Stoplight Red Substrate Buffer	1 x 12ml

### Function

Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR2. 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.

### Involvement in disease

Genetic variations in TNF are a cause of susceptibility psoriatic arthritis (PSORAS) [MIM:607507]. PSORAS is an inflammatory, seronegative arthritis associated with psoriasis. It is a heterogeneous disorder ranging from a mild, non-destructive disease to a severe, progressive, erosive arthropathy. Five types of psoriatic arthritis have been defined: asymmetrical oligoarthritis characterized by primary involvement of the small joints of the fingers or toes; asymmetrical arthritis which involves the joints of the extremities; symmetrical polyarthritis characterized by a rheumatoidlike pattern that can involve hands, wrists, ankles, and feet; arthritis mutilans, which is a rare but deforming and destructive condition; arthritis of the sacroiliac joints and spine (psoriatic spondylitis).

### Sequence similarities

Belongs to the tumor necrosis factor family.

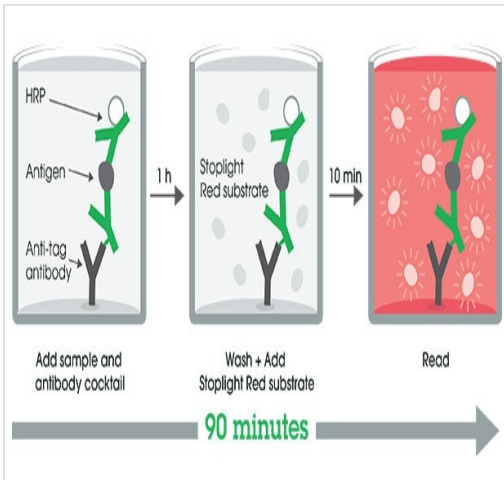
### Post-translational modifications

The soluble form derives from the membrane form by proteolytic processing. The membrane form, but not the soluble form, is phosphorylated on serine residues. Dephosphorylation of the membrane form occurs by binding to soluble TNFRSF1A/TNFR1. O-glycosylated; glycans contain galactose, N-acetylgalactosamine and N-acetylneuraminic acid.

### Cellular localization

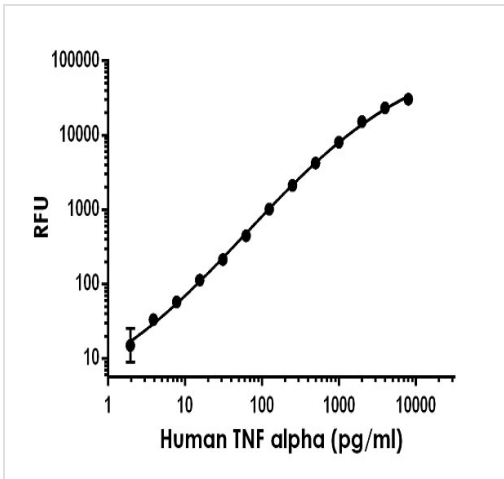
Secreted and Cell membrane.

### Images



SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.

Other - Human TNF alpha ELISA Kit, Fluorescent (ab229399)



The TNF alpha standard curve was prepared as described in Section 10. Raw data generated on SpectraMax M4 Multi-Mode Microplate Reader is shown in the table. Background-subtracted data values (mean +/- SD) are graphed.

Example of human TNF alpha standard curve in Sample Diluent NS.

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Sandwich ELISA - Human TNF alpha ELISA Kit,  
Fluorescent (ab229399)

To learn more about the advantages of recombinant antibodies see [here](#).

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