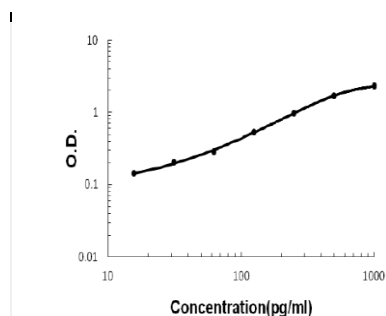


## Human TNF-alpha ELISA Kit # 100-215-TNH

**This kit measures recombinant TNF-alpha or native TNF-alpha in human samples (culture medium, buffers, serum or plasma). For in vitro research use only.**



Typical Std. Curve

### ELISA Kit Features

- Anti human TNF  $\alpha$  antibody pre-coated, stabilized, ready-to-use 96-well strip plate, suitable for multiple runs over 6-12 months.
- Human TNF  $\alpha$  standards (15.6-1000 pg/ml).
- Sample size 100  $\mu$ l (Culture medium, serum or plasma diluted ~1:100 or more).
- 210 minutes, 4 incubation steps, Sensitivity <1 pg/ml; Good Recovery and Assay Precision.
- Contains all necessary reagents. Shelf life ~6 months.
- Sample values are calculated from the standard curve.

**Assay Procedure: Allow all reagents to reach room temperature. Arrange and label required number of strips.**

- Step 1.** Pipet **100  $\mu$ l** each of pre-diluted stds, samples (diluted 1:100 or more). Mix gently and incubate at **37oC for 90 min.**
- Step 2.** Add biotinylated antibodies and incubate at room temp. for **60 min.**
- Step 3.** Aspirate and **Wash 3X.** Add **0.1 ml ABC solution** to all wells, mix gently, and incubate at **37oC for 30 min.**
- Step 4.** **Aspirate and wash 5X.** Add **100  $\mu$ l TMB** and incubate at **37oC for 30 min.**
- Step 5.** Pipet **100  $\mu$ l of stop solution** into each well and mix gently (blue color turns yellow). **Measure absorbance at 450 nm.** Determine TNF-alpha concn in each sample using the standards (results are expressed in pg/ml).

### General information

Tumor necrosis factor (TNF, or TNF- $\alpha$ ) is a cytokine involved in systemic inflammation. TNF was thought to be produced primarily by macrophages, but it is produced also by a broad variety of cell types including lymphoid cells, mast cells, endothelial cells, cardiac myocytes, adipose tissue, fibroblasts, and neuronal tissue. Large amounts of TNF are released in response to lipopolysaccharide, other bacterial products, and Interleukin-1 (IL-1). In the skin, mast cells appear to be the predominant source of pre-formed TNF, which can be released upon inflammatory stimulus (e.g., LPS). It is a 212-amino acid-long type II transmembrane protein arranged in stable homotrimers. From this membrane-integrated form the soluble homotrimeric cytokine (sTNF) is released via proteolytic cleavage by the metalloprotease TNF alpha converting enzyme (TACE, also called ADAM17). TNF can bind two receptors, TNF-R1 (TNF receptor type 1; CD120a; p55/60) and TNF-R2 (TNF receptor type 2; CD120b; p75/80). TNF-R1 is expressed in most tissues, and can be fully activated by both the membrane-bound and soluble trimeric forms of TNF, whereas TNF-R2 is found only in cells of the immune system, and respond to the membrane-bound form of the TNF homotrimer.

The primary role of TNF is in the regulation of immune cells. TNF, being an endogenous pyrogen, is able to induce fever, to induce apoptotic cell death, to induce sepsis (through IL1 & IL6 production), to induce cachexia, induce inflammation, and to inhibit tumorigenesis and viral replication. TNF promotes inflammatory response, which in turn causes many of the clinical problems associated with autoimmune disorders such as rheumatoid arthritis, spondylitis, Crohn's disease, psoriasis, hidradenitissuppurativa and refractory asthma. These disorders are treated by using a **TNF inhibitor**. Inhibition can be achieved with a monoclonal antibody such as infliximab (Remicade), adalimumab (Humira) or certolizumabpegol (Cimzia).

ADI's TNF alpha ELISA kit is a highly sensitive sandwich type assay for the quantitative measurement of TNF alpha in stimulated human serums. The assay can be adapted to measure human TNF alpha in other biological fluids such as plasma, urine, culture medium etc.

### Human TNF alpha Related Reagents and ELISA kits

Catalog#	Product Description
<b>200-300-ADG</b>	Humira/Adalimumab (Human Anti-TNF-alpha) ELISA Kit for dog, 96 tests
<b>200-310-AHG</b>	Humira/Adalimumab (Human Anti-TNF-alpha) ELISA Kit for human, 96 tests
<b>200-320-AHG</b>	Human Anti-Humira/Adalimumab (Human Anti-TNF-alpha) ELISA Kit for human, 96 tests

100-215-TNH-Flr Rev. 130920P

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