

Store at +4C
#7289**SignalKine™ Human TNF- α Sandwich ELISA Kit****Orders:** 877-616-CELL (2355)
orders@cellsignal.com**Support:** 877-678-TECH (8324)**Web:** info@cellsignal.com
cellsignal.com**Species Cross Reactivity:** H
UniProt ID: #P01375
Entrez-Gene Id: #7124

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For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes	Product #	Quantity	Color	Storage Temp
ELISA Wash Buffer (20X)	9801	25 ml	Colorless	+4C
TMB Substrate	7004	6 ml	Colorless	+4C
STOP Solution	7002	6 ml	Colorless	+4C
Sealing Tape	54503	2 ea		+4C

Kit contents scale proportionally with size, except sealing tape.

Example: The V1 kit contains 5X the listed quantities above, but will exclude the sealing tape.

The microwell plate is supplied as 12 8-well modules - Each module is designed to break apart for 8 tests.

Description

SignalKine™ Human TNF- α Sandwich ELISA Kit from Cell Signaling Technology (CST) is a solid phase sandwich enzyme-linked immunosorbent assay (ELISA) that detects human TNF- α (hTNF- α) in multiple matrices. Unknown samples being tested for hTNF- α and hTNF- α standards are added to low volume microwells, where the hTNF- α is captured by the coated hTNF- α Rabbit mAb. Following a washing step, a biotinylated hTNF- α Detection Rabbit mAb is added to detect the captured hTNF- α . HRP-linked Streptavidin is then used for detection of the biotinylated hTNF- α Detection Rabbit mAb. HRP substrate, TMB, is added for color development. The magnitude of absorbance for this developed color is proportional to the quantity of hTNF- α in the sample.

SignalKine™ Human TNF- α Sandwich ELISA Kit detects hTNF- α in multiple matrices that can be quantified by generating a standard curve with the recombinant hTNF- α protein standard provided. The hTNF- α standard range is from 15.6 to 1000 pg/ml. Samples containing higher levels of hTNF- α can be diluted to fit into the standards range.

Background

TNF- α , the prototypical member of the TNF protein superfamily, is a homotrimeric type-II membrane protein (1,2). Membrane-bound TNF- α is cleaved by the metalloprotease TACE/ADAM17 to generate a soluble homotrimer (2). Both membrane and soluble forms of TNF- α are biologically active. TNF- α is produced by a variety of immune cells including T cells, B cells, NK cells, and macrophages (1). Cellular response to TNF- α is mediated through interaction with receptors TNF-R1 and TNF-R2 and results in activation of pathways that favor both cell survival and apoptosis depending on the cell type and biological context. Activation of kinase pathways (including JNK, Erk1/2, p38 MAPK, and NF- κ B) promotes the survival of cells, while TNF- α -mediated activation of caspase-8 leads to programmed cell death (1,2). TNF- α plays a key regulatory role in inflammation and host defense against bacterial infection, notably *Mycobacterium tuberculosis* (3).

Background References

1. Aggarwal, B.B. (2003) *Nat Rev Immunol* 3, 745-56.
2. Hehlhans, T. and Pfeffer, K. (2005) *Immunology* 115, 1-20.
3. Lin, P.L. et al. (2007) *J Investig Dermatol Symp Proc* 12, 22-5.

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Revision 1

#7289

**SignalKine™ Human TNF- α Sandwich
ELISA Kit**

