

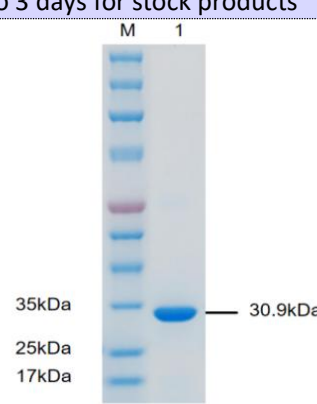


## Mouse Tumor Necrosis Factor $\alpha$ (TNF $\alpha$ ) Protein, Recombinant

### I. For sale

Product name	Catalog #	Size
Mouse Tumor Necrosis Factor $\alpha$ (TNF $\alpha$ ) Protein, Recombinant	P03T0008	10ug
		50ug
		500ug
		1mg

### II. Product Description

Other Names	DIF; TNFA; TNFSF2; TNLG1F; TNF-alpha
Protein & NCBI Number	P06804, NM_013693.3
Host	E.coli
Express Region	Leu 80-Leu 235
Protein Sequence	LRSSSQNSSDKPVAHVVANHQVEEQLEWLSQRANALLANGMDLKDNLVVPADGLYLVYSQVLFKGGQCPDYVLLTHTVSRFAISYQEKVNLLSAVKSPCKDTPEGAELKPWYEPIYLGGVFQLEKGDQLSAEVNLPKYLDFAESGQVYFGVIAL
Molecular Weight	The protein molecule consists of 277 amino acids (including the fusion tag), with a predicted molecular weight of 31.0 kDa and an actual molecular weight of 29-31 kDa.
Fusion Tag	6xHis-SUMO (N-terminus)
Purity	$\geq 90\%$ SDS-PAGE
Physical Property	Liquid
Components	0.01M PBS+20% glycerol, sterile solution.
Storage & Stability	After aliquoting, the stability of the samples can be maintained for up to 6 months at $-20^{\circ}\text{C}$ to $-80^{\circ}\text{C}$ , avoiding repeated freeze-thaw cycles.
Applications	Antibody preparation, immunoassay (ELISA, WB), subcellular localization and interaction protein identification, etc.
Lead Time	5 to 10 business days; 2 to 3 days for stock products
Figure. SDS-PAGE	 <p>Bis-Tris (MOPS) SDS-PAGE</p>



### III. Storage and Transportation

Transport at 2-8°C, product is stable for up to twelve months from date of receipt under sterile conditions at -20°C to -80°C.

### IV. Notes

This product is for research use only. Please wear laboratory attire and disposable gloves when handling.

### V. Background

The TNF- $\alpha$  gene encodes a multifunctional pro-inflammatory cytokine that is a member of the tumor necrosis factor superfamily. It is primarily secreted by macrophages and exerts its functions by binding to tumor necrosis factor receptors. The tumor necrosis factor and tumor necrosis factor receptor superfamily proteins (TNFR SFP) are a group of ligand-receptor protein superfamilies. TNF contains a trimeric symmetric structural motif called the tumor necrosis factor homology domain (THD), which can bind to the cysteine-rich domains (CRDs) in TNF receptors (TNFRs). The diversity of CRDs leads to the heterogeneity of TNFRs.

The activity of TNF- $\alpha$  is mediated by its two receptors, TNF-R1 (p55) and TNF-R2 (p75), which have distinct signaling activities. TNF-R1 is generally pro-apoptotic, while TNF-R2 is usually anti-apoptotic. TNF-R1 and TNF-R2 have similar extracellular TNF-binding structures characterized by four repeated cysteine-rich domains, but they have different intracellular domains. The main structural differences between TNF-R1 and TNF-R2 lead to differences in their biological activities, primarily due to the lack of an intracellular death domain in TNF-R2.

TNF- $\alpha$  is pleiotropic and has been demonstrated to regulate a variety of inflammatory and autoimmune processes. Low levels of TNF- $\alpha$  can modulate the body's immune response to act against infections, while high levels of TNF- $\alpha$  induce the secretion of other inflammatory factors such as IL-1, IL-6, IL-8, IL-10, IL-12, and promote inflammation within the body. TNF- $\alpha$  can kill tumors by promoting T cell proliferation and damaging vascular endothelial cells, as well as by recruiting immune cells, inducing the production of prostaglandins and cyclooxygenases, and inducing oxidative stress, thereby promoting cell degeneration and the progression of inflammation.

### VI. References

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