Data Sheet (Cat.No.TMPY-00936)

TargetMol

TNF alpha Protein, Human, Recombinant

General Information

Synonyms:	TNFA;TNFSF2;TNF-alpha;TNF-α;DIF;tumor necrosis factor
Protein Construction:	A DNA sequence encoding the human TNF-α soluble form (NP_000585.2) (Val 77-Leu 233) was expressed, with an initial Met at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P01375
Molecular Weight:	17.5 kDa (predicted); 17.5 kDa (reducing conditions)

QC Testing

Biological Activity:	1.Measured in a cytotoxicity assay using L929 mouse fibrosarcoma cells in the presence of the metabolic inhibitor actinomycin D. The ED50 for this effect is typically 3-30 pg/mL. 2.Captured Adalimumab on Anti-human IgG Fc via CM5 Chip can TNF-α with an affinity constant of 0.2843 nM as determined in a SPR assay(Routinely tested).
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	< 5 EU/mg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.15 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Tumor necrosis factor alpha (TNF-alpha), also known as TNF, TNFA or TNFSF2, is the prototypic cytokine of the TNF superfamily, and is a multifunctional molecule involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. Two

receptors, TNF-R1 (TNF receptor type 1; CD120a; p55/60) and TNF-R2 (TNF receptor type 2; CD120b; p75/80), bind to TNF-alpha. TNF-alpha protein is produced mainly by macrophages, and large amounts of this cytokine are released in response to lipopolysaccharide, other bacterial products, and Interleukin-1 (IL-1). TNF-alpha is involved in fighting against the tumorigenesis, thus, is regarded as a molecular insight in cancer treatment.TNF-alpha Protein & AntibodyCancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

Hector J, et al. (2007) TNF-alpha alters visfatin and adiponectin levels in human fat. Horm Metab Res. 39(4): 250-5.
Berthold-Losleben M, et al. (2008) The TNF-alpha System: Functional Aspects in Depression, Narcolepsy and Psychopharmacology. Curr Neuropharmacol. 6(3): 193-202.

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