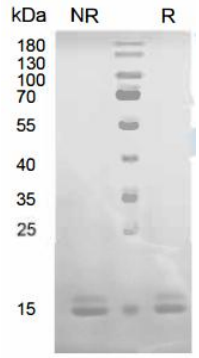
Recombinant Human TNF-alpha, Tag Free

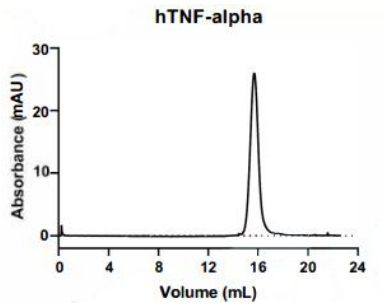
Cat number: KGH2015

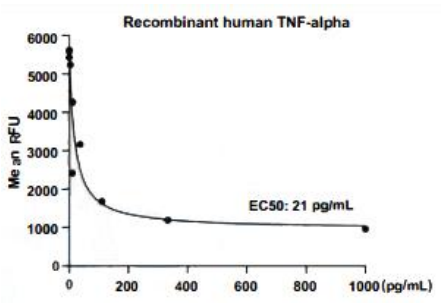
Store at - 80℃ for 12 months **For Research Use Only（科研专用）**

General Information	
Synonyms	Human Tumor Necrosis Factor alpha, rTNFA; TNF-A; TNFalpha
Accession#	P01375
Source	Human embryonic kidney cell, HEK293-derived human TNF-alpha protein
	Val77-Leu233
Predicted Moleucular weigh	17.4 kDa (Monomer)
Form/Structure	Trimer in solution
Components and Storge	
Formulation	Solution prote1n
	Dissolved in sterile PBS buffer, see tube wall for specific concentration.
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening
Storaged Stability	Avoid repeated freeze-thaw cycles
	It is recommended that the protein be aliquoted for optimal
	storage. 12 months from date of receipt, -80℃ as supplied
Shipping	Shipping with dry ice.
Quality	
Purity	> 95%, determined by SDS PAGE.
Endotoxin Level	<0.010 EU per 1ug of the protein by the LAL method.
Activity	Measured in a cytotoxicity assay using L-929 mouse fibroblast cells in the presence of the metabolic inhibitor actinomycin D. The ED_{50} for this effect is 20-100 pg/mL.

SDS-PAGE **Gel filtration** **Bioactivity**







2 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining

Size-exclusion chromatography of recombinant human IL2 protein (280 nm absorbance)

Recombinant Human TNF-alpha induces cytotoxicity in the L-929 mouse fibroblast cell line in the presence of the metabolic inhibitor actinomycin D.

Background

Tumor necrosis fctor alpha(TNF-alpha),is a pleiotropic pro inflammatory cytokine secreted by various cells, including adipocytes, activated monocytes, macrophages, B cells, T cells and fibroblasts(1,2). It belongs to TNF family of ligands, and signals through two receptors, TNFR1 and TNFR2.Human TNF-alpha consisits of a 35 amino acid(aa) cytoplasmic domain, a 21 aa transmembrane segment, and a 177 aa extracellular domain(ECO)(3).

The ECO of human TNF-alpha shares 97% aa sequence identity with rhesus and 71%-92% with bovine, canine, cotton rat, equine, feline, mouse, porcine,and rat TNF-alpha. TNF-alpha is assembled intracellularly to form a noncovalently linked homotrimer which is expressed on the cell surface(4). Cell Surface TNF-alpha can induce the lysis of neighboring tumor cells and virus infected cells, and it can generate its own downstream cell signaling following ligation by soluble TNFR1(2, 5). Shedding of membrane bound TNF-alpha by

TACE/ADAM17 releases the bioactive cytokine, a 55 kDa soluble trimer of the TNF-alpha extracellular domain(6-8). TNF-alpha binds the ubiquitous 55-60 kDa TNFR(9,10)and the hematopoietic cell-restricted 80 kDa TNFR2(11, 12), both of which are also expressed as homotrimers(1, 2, 13).

Reference

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