Recombinant Murine TNF-α/TNFSF2

Information

Gene ID	21926
Accession #	P06804 (Uniprot)
Alternate Names	Tumor Necrosis Factor, TNFSF2, Cachectin, Differentiation-inducing factor (DIF), Necrosin, Cytotoxin, TNF-alpha, TNF-α, Tnfa
Source	Escherichia coli.
Tag	Tag free
M.Wt	The protein has a calculated MW of 20.4 kDa.
Appearance	Solution protein
Stability & Storage	Avoid repeated freeze-thaw cycles. - 12 months from date of receipt, -20 to -70°C as supplied.
Concentration	See label.
Formulation	Supplied as a 0.22 μm filtered solution in PBS, pH7.4.
Biological Activity	Compared with the standard, it has completed biological activity. The ED_{50} as determined by a cytotoxicity assay using mouse L929 cells was less than 50 pg/mL, corresponding to a specific activity of >2.0×10^7 IU/mg in the presence of actinomycin D.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1.0 EU/μg as determined by LAL method.

Description

Tumor Necrosis Factor alpha (TNF-α) is a pro-inflammatory cytokine primarily produced by macrophages and other cell types such as CD4+ lymphocytes and NK cells. The biological effects of TNF-α include tumor cytotoxicity, promotion of inflammatory responses, antiviral activity, induction of fever, and immunomodulation. TNF-α is also expressed at lower levels in various other cells, including fibroblasts, smooth muscle cells, and tumor cells. Studies have shown that TNF-α not only exhibits cytotoxicity against tumor cells but also induces the production of various interleukins and interferons. The network activity of these cytokines can synergize with each other, forming a cascade of amplification reactions, thereby exacerbating inflammatory responses and ultimately leading to extensive damage to the organism, such as the occurrence of critical conditions like septic shock and multiple organ damage. TNF-α also exerts bone resorption activity, leading to bone destruction. Diseases currently known to be associated with TNF-α include AIDS, anemia, tumors, hemorrhagic shock, organ transplant rejection, tuberculosis, leukemia, diabetes, and rheumatoid arthritis. In recent years, TNF-α has also become a critically important target molecule in fields such as monoclonal antibodies and protease inhibitors.

TNF-α exists in a secreted soluble form and a membrane-anchored form, both of which are biologically active. The naturally occurring form of TNF-α is glycosylated, but non-glycosylated recombinant TNF-α possesses comparable biological activity. It is reported that the native form of TNF-α with biological activity is a trimer. Human and mouse TNF-α exhibit approximately 79% homology at the amino acid level and in cross-reactivity.

APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com