

Recombinant Human Tumor Necrosis Factor-alpha/TNFSF2 GMP

Information

Gene ID	7124
Accession #	P01375
Alternate Names	Tumor Necrosis Factor, TNFSF2, Cachectin, Differentiation-inducing factor , DIF, Necrosin, Cytotoxin
Source	Escherichia coli.
M.Wt	Approximately 17.5 kDa, a single non-glycosylated polypeptide chain containing 158 amino acids.
AA Sequence	MVRSSSRTPS DKPVAHVVAN PQAEGQLQWL NRRANALLAN GVELRDNQLV VPSEGLYLIY SQVLFGQGC PSTHVLLTHT ISRIAVSYQT KVNLLSAIKS PCQRETPEGA EAKPWYEPIY LGGVFQLEKG DRLSAEINRP DYLDFAESGQ VYFGIIL
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - A minimum of 12 months when stored at $\leq -20^{\circ}\text{C}$ as supplied Refer to lot specific COA for the Use by Date - 1 month, 2 to 8°C under sterile conditions after reconstitution - 3 months, -20 to -70°C under sterile conditions after reconstitution
Formulation	Lyophilized from a $0.2\ \mu\text{m}$ filtered concentrated solution in 10 mM PB, 10 mM NaCl, pH 7.0.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq -20^{\circ}\text{C}$. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Fully biologically active when compared to standard. The ED_{50} as determined by a cytotoxicity assay using murine L929 cells is less than 0.05 ng/mL, corresponding to a specific activity of $> 2.0 \times 10^7$ IU/mg in the presence of actinomycin D, which is calibrated against rHuTNF- α /TNFSF2 WHO International Standard (NIBSC code: 12/154).
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	5 μg	100 μg	
Recombinant Human Tumor Necrosis Factor-alpha/TNFSF2 GMP	5 μg	100 μg	

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Quality Control

Purity	> 98 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than $0.01\text{ EU}/\mu\text{g}$ of rHuTNF- α /TNFSF2 GMP as determined by LAL method.

Description

Tumor necrosis factor alpha (TNF- α), also called cachectin, is the best-known member of the TNF-family, which can cause cell death. This protein is produced by neutrophils, activated lymphocytes, macrophages, NK cells, LAK cells, astrocytes endothelial cells, smooth muscle cells and some transformed cells. TNF- α occurs as a secreted, soluble form and as 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 has comparable biological activity. The biologically active native form of TNF- α is reportedly a trimer. Human and murine TNF- α show approximately 79 % homology at the amino acid level and cross-reactivity between the two species. Two types of receptors for TNF- α have been described and virtually all cell types studied show the presence of one or both of these receptor types.

Reference

1. Davenport C, Kenny H, Ashley DT, et al. 2012. Eur J Clin Invest, 42: 1173-9
2. Cavalcanti YV, Brelaz MC, Neves JK, et al. 2012. Pulm Med, 2012: 745483
3. Sheng WS, Hu S, Ni HT, et al. 2005. J Leukoc Biol, 78: 1233-41
4. Berthold-Losleben MandHimmerich H. 2008. Curr Neuropharmacol, 6: 193-202.



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