



**Data Sheet: CellGro® / CellGenix™**  
**Recombinant Human Tumor Necrosis Factor alpha (TNF- $\alpha$ )**  
**research grade - Order No.: 1406**

Source	A DNA sequence encoding the mature TNF- $\alpha$ protein was expressed in <i>E. coli</i> .
Raw Material Statement	n.a.
Production	Produced in a GMP environment.
Molecular Mass	The methionyl form of the <i>E. coli</i> expressed mature human TNF- $\alpha$ contains 158 amino acid residues and has a molecular mass of 17.5 kDa.
Purity	$\geq 95\%$ , as determined by SDS-PAGE.
Endotoxin Level	$< 0.1$ ng per 1 $\mu\text{g}$ ( $< 1000$ EU/mg), as determined by LAL gel clot test.
Activity	Measured in a cell cytotoxicity assay using a murine cell line, L-929.  ED50 is typically $\leq 0.1$ ng/ml (Activity: $\geq 1 \times 10^7$ IU/mg) calibrated with the 1 <sup>st</sup> International Standard NIBSC, # 87/650
Sterility	Sterility test of the vial product (direct inoculation).
Formulation	Lyophilized from a protein solution containing 25mM HEPES without any carrier materials and preservatives.
Amount per Vial	50 $\mu\text{g}$ or 10 $\mu\text{g}$ , as determined by spectrophotometrical measurement at 280 nm using HEPES as reference.
Transport	Ambient temperature
Storage at	-20°C to -80°C. Avoid repeated freeze-thaw cycles.
Shelf life	2 years from date of production
Intended Use	<b>For research use only.</b> <b>Not intended for diagnostic or therapeutic use.</b>

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