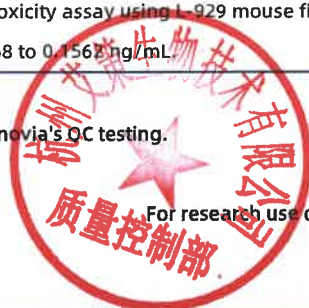


# CERTIFICATE OF ANALYSIS

<b>Product name:</b>	Recombinant Human TNF- $\alpha$ (rHu TNF- $\alpha$ )
<b>Catalog:</b>	AC52380
<b>Size :</b>	100 $\mu$ g
<b>Lot:</b>	1053230401
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 17.48 kDa, a single non-glycosylated polypeptide chain containing 158 amino acids.
<b>Description :</b>	E. coli-derived human TNF-alpha protein Val77-Leu233 with an N-terminal Met Accession # P01375.
<b>SDS-PAGE:</b>	17.48 kDa, under reducing condition.
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS.
<b>Reconstitution:</b>	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute to a concentration of 0.1-1.0 mg/mL in sterile distilled H <sub>2</sub> O. Stock solutions should be apportioned into working aliquots and stored at -20 $^{\circ}$ C to -70 $^{\circ}$ C. Further dilutions should be made in appropriate buffered solutions. Do not reconstitute in cell culture media directly.
<b>Shipping:</b>	The product is shipped at 2 $^{\circ}$ C to 8 $^{\circ}$ C. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage:</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. A minimum of 12 months from date of shipping when stored at -20 $^{\circ}$ C to -70 $^{\circ}$ C as supplied. 4 weeks at 2 $^{\circ}$ C to 8 $^{\circ}$ C under sterile conditions after reconstitution. 4 months at -20 $^{\circ}$ C to -70 $^{\circ}$ C under sterile conditions after reconstitution.

Quality control assays		
Test	Standard	Result
Endotoxin	< 1EU// $\mu$ g	Pass
Purity	> 95%	Pass
Sterility	Negative	Pass
Bioactivity-ELISA	Immobilized Recombinant human TNF- $\alpha$ (Catalog #AC52380) at 0.2 $\mu$ g/well can bind human TNF- $\alpha$ R1 with a linear range of 109.8 to 143.8 ng/mL.	Pass
Bioactivity-BLI	Loaded Human TNF- $\alpha$ R1, can bind Recombinant Human TNF- $\alpha$ (Catalog #AC52380) with an affinity constant of 0.119nM as determined in BLI assay (Octet <sup>®</sup> R8).	Pass
Bioactivity-Cell based assay	Recombinant human TNF- $\alpha$ (Catalog #AC52380) bioactivity is measured in a cytotoxicity assay using L-929 mouse fibroblast cells, the EC50 for this effect is 0.1168 to 0.1562 ng/mL.	Pass

This product lot has passed Acnovia's QC testing.



For research use only.