

# CERTIFICATE OF ANALYSIS

<b>Product name:</b>	Recombinant Human GM-CSF (rHuGM-CSF)
<b>Catalog:</b>	AC52378
<b>Size :</b>	100 µg
<b>Lot:</b>	5049230401
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 14 kDa, a single non-glycosylated polypeptide chain containing 143 amino acids.
<b>Description :</b>	Accession # P04141.1, Ala18-Glu144, with an N terminal Ala.
<b>SDS-PAGE:</b>	14 kDa, under reducing conditions
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.
<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 °C to -70 °C. Further dilutions should be made in appropriate buffered solutions. <b>Do not reconstitute in cell culture media directly.</b>
<b>Shipping:</b>	The product is shipped at 2 °C to 8 °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°C to -70°C as supplied. 4 weeks at 2 °C to 8 °C under sterile conditions after reconstitution. 4 months at -20 °C to -70 °C under sterile conditions after reconstitution.

Quality control assays		
Test	Standard	Result
Endotoxin	< 1EU//µg	Pass
Purity	> 95%	Pass
Sterility	Negative	Pass
Bioactivity-ELISA	Immobilized Recombinant Human GM-CSF (Catalog # AC52378) at 0.2 µg/well can bind Human GM-CSF R alpha with a linear range of 107.2 to 823.9 ng/mL.	Pass
Bioactivity-Cell based assay	Recombinant Human GM-CSF (Catalog # AC52378) stimulates proliferation of TF-1 human erythroleukemic cells, the EC50 for this effect is 0.02988 to 0.05326 ng/mL.	Pass

This product lot has passed Acnovia's QC testing.

