

GMP Recombinant Human GM-CSF (carrier-free)

| | |
|------------------------|---|
| Catalog# / Size | 572914 / 25 µg 572916 / 100 µg |
| Other Names | Colony stimulating factor 2, CSF2, Granulocyte/macrophage colony-stimulating factor, CSF-α, Pluripoietin-α, Eosinophil colony stimulating factor (Eo-CSF), Burst promoting activity (BPA). |
| Description | GM-CSF plays a key role in signaling emergency hemopoiesis (predominantly myelopoiesis) in response to infection, including the production of granulocytes and macrophages in the bone marrow and their maintenance, survival, and functional activation at sites of injury or insult. The receptor for GM-CSF is a heterodimer that comprises a major binding subunit (GMRα) and a major signaling subunit (βc). The receptor subunits are always co-expressed on the surface of leukocytes, with βc being expressed at lower levels than GMRα. Certain non-hemopoietic cell types have also been reported to express the GM-CSF receptor and to respond to GM-CSF stimulation <i>in vitro</i> , although the <i>in vivo</i> significance of these observations remains uncertain. |

Product Details

| | |
|-------------------------------|---|
| Source | Human GM-CSF, amino acids Ala18- Glu144 (Accession# NM_000758) was expressed in <i>E. coli</i> . |
| Molecular Mass | The 127 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 14.5 kD. The DTT-reduced protein migrates at approximately 14 kD and the non-reduced protein migrates with slightly greater mobility by SDS-PAGE. |
| Purity | >95%, as determined by Coomassie stained SDS-PAGE. |
| Formulation | 0.1 µm filtered protein solution is in PBS, pH 7.2. |
| Endotoxin Level | Less than 0.1 EU per µg protein as determined by the LAL method |
| Concentration | 500 µg/mL |
| Storage & Handling | Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% endotoxin-free BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week or stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles. |
| Activity | ED ₅₀ = 0.01 – 0.04 ng/mL as determined by the dose-dependent stimulation of TF-1 cell proliferation. Deep Blue Cell Viability™ Kit (Cat. No. 424701) is used to measure the proliferation. |
| Application | Bioassay Cell Culture |
| Application Notes | BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are validated in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com . |
| Disclaimer | GMP Recombinant Proteins. BioLegend GMP recombinant proteins are manufactured in a dedicated GMP facility and compliant with ISO 13485:2016. For research or <i>ex vivo</i> cell processing use. Not for use in diagnostic or therapeutic procedures. Our processes include: <ul style="list-style-type: none">• Batch-to-batch consistency• Material traceability• Documented procedures• Documented employee training• Equipment maintenance and monitoring records |

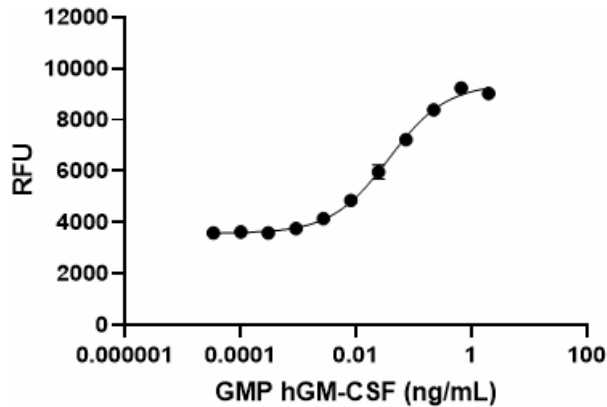
- Lot-specific certificates of analysis
- Quality audits per ISO 13485:2016
- QA review of released products

BioLegend GMP recombinant proteins are manufactured and tested in accordance with USP Chapter 1043, Ancillary Materials for Cell, Gene and Tissue-Engineered Products and Ph. Eur. Chapter 5.2.12.

Antigen Details

| | |
|---------------------------|--|
| Structure | Cytokine |
| Distribution | T cells, macrophages, fibroblasts, endothelial cells, mast cells. |
| Function | Synergistic with IL-1, IL-3, G-CSF; E21R competitive antagonist for receptor binding; stored in ECM with heparan sulfate proteoglycans |
| Interaction | Granulocyte/macrophage/erythroid/megakaryocytic progenitors, myeloblasts, monoblasts, dendritic cells, T cells. |
| Ligand/Receptor | Heterodimer GM-CSFR α subunit (CDw116); β -subunit (CDw131) in common |
| Bioactivity | Measured by its ability to induce proliferation of TF-1 erythroleukemic cells. |
| Cell Type | Embryonic Stem Cells, Hematopoietic stem and progenitors |
| Biology Area | Cell Biology, Stem Cells |
| Molecular Family | Cytokines/Chemokines, Growth Factors |
| Antigen References | <ol style="list-style-type: none"> 1. Hercus TR, et al. 2009. Blood. 114:1289-98. 2. Hayashida K, et al. 1990. Proc Natl Acad Sci USA. 87:9655-9. 3. Walker F & Burgess AW. 1985. EMBO J. 4:933-9. 4. Kitamura T, et al. 1989. J Cell Physiol. 140:323-34. |
| Gene ID | 1437 |

Product Data



GMP recombinant human GM-CSF induces dose-dependent proliferation of TF-1 erythroleukemic cells. Deep Blue Cell Viability™ Kit (Cat. No. 424701) is used to measure the proliferation. The ED₅₀ range for this effect is 0.01 – 0.04 ng/mL.

Symbols Glossary*

| Symbol | Meaning | Symbol Title | Symbol No. | Symbol | Meaning | Symbol Title | Symbol No. |
|--------|---|----------------------------|------------|--------|--|---|------------|
| | Catalog number | Catalogue number | 5.1.6 | | Indicates the need for the user to consult the instructions for use. | Consult instructions for use | 5.4.3 |
| | Indicates the temperature limits to which the medical device can be safely exposed. | Temperature limit | 5.3.7 | | Indicates a medical device that needs protection from light sources. | Keep away from sunlight | 5.3.2 |
| | Indicates the upper limit of temperature to which the medical device can be safely exposed. | Upper limit of temperature | 5.3.6 | | Indicates the date after which the medical device is not to be used. | Use-by date | 5.1.4 |
| | Indicates the medical device manufacturer. | Manufacturer | 5.1.1 | | Indicates the authorized representative in the European Community. | Authorized representative in the European Community | 5.1.2 |
| | Indicates the manufacturer's batch code so that the batch or lot can be identified. | Batch code | 5.1.5 | | Indicates a medical device that is intended to be used as an in vitro diagnostic medical device. | In vitro diagnostic medical device | 5.5.1 |

* Symbol information is from EN ISO 15223-1:2016 Medical devices – Symbols to be used with medical device labels, labelling and information to be supplied – Part 1: General requirements

For research and *ex vivo* cell processing use. Not for diagnostic or therapeutic procedures. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/terms). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to reverse engineer functionally similar materials without written approval of BioLegend. By use of these products you accept the terms and conditions of any and all applicable [Limited Use Label Licenses](#). Unless otherwise indicated, these products are for research and *ex vivo* cell processing use only and not intended for human or animal diagnostic or therapeutic use.

8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587