Recombinant Human GM-CSF ACF

Catalog #	Product	Size
95112	Recombinant Human GM-CSF ACF	20 µg

Intended Use

Recombinant human GM-CSF is a carrier-free, animal component-free bioactive recombinant cytokine intended for use in cell culture applications. GM-CSF is involved in different biological processes including the proliferation, activation and differentiation of macrophages, granulocytes and their progenitors.

Product Description

Synonyms: CSF-2. Pluripoietin-α, MGI1GM.

Accession Number: P04141

Background: Granulocyte Macrophage Colony Stimulating Factor (GM-CSF) is a pleiotropic cytokine and a member of a family of endogenous cytokines of the hematopoietic system. GM-CSF is produced as a response to immune or inflammatory stimuli by monocytes, T cells, macrophages as well as fibroblasts. GM-CSF is able to stimulate the production of neutrophilic granulocytes, macrophages, and mixed granulocyte-macrophage colonies from bone marrow cells. GM-CSF can also stimulate some functional activities in mature granulocytes and macrophages. Human and mouse GM-CSF show no cross reactivity. Recombinant GM-CSF is a non-glycosylated protein, containing 127 amino acids, with a molecular weight of 14.5 kDa [(1-4)].

Specifications

Formulation: Recombinant Human GM-CSF is lyophilized from 10 mM Na_2PO_4, pH 7.5.

Protein Purity: ≥95% determined by HPLC, reducing and non-reducing SDS-PAGE analysis, UV spectroscopy.

Bioactivity: ED50 is determined by a dose dependent proliferation of human TF1 cells (5). The ED50 is typically less than 0.5 ng/mL. The specific activity of Human GM-CSF is 1.6x104 IU/µg, which is calibrated against recombinant human GM-CSF WHO International Standard (NIBSC code: 88/646).

Quality and Grade: Carrier-free and animal component-free.

Quality Assurance

All quality control test results are reported on a lot specific Certificate of Analysis which is available at www.irvinesci.com or upon request.

Shipping

This product is shipped at ambient temperature. Immediately upon receipt, store at the recommended temperature below.

Storage Instructions and Stability

Upon receipt, store the lyophilized protein at or below -10°C in a manual defrost freezer for up to 12 months from date of receipt. Unopened vials are stable for one year from the date of receipt when stored as recommended. Reconstituted material should be apportioned in working volumes and stored at or below -10°C in manual defrost freezer. Reconstituted material is stable for 4-6 weeks when stored at or below -10°C and for 3-12 months at -80°C. Stability can be increased by adding at least 0.1% of carrier protein.

Precautions

This product is for research or further manufacturing use only. It is not for use in diagnostic procedures. The safety and efficacy of this product in diagnostic or other clinical procedures has not been established.

Directions for Use

1. **Reconstitution**

   Centrifuge vials before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product with sterile water, which can be further diluted into other aqueous solutions.

2. **Optimum Concentration**

   The optimum concentration varies depending on cell type and culture conditions. Working concentration should be determined for each specific application.

Related Products

Catalog #	Product	Size
91154	PRIME-XV T Cell CDM	1 L
91141	PRIME-XV T Cell Expansion XSFM	1 L
91211	PRIME-XV Hematopoietic Cell Basal XSFM	500 mL

References

1. Broughton SE, Dhagat U, Hercus TR, Nero TL, Grimbadeston MA, Bonder CS, Lopez AF, Parker MW (2012) The GM-CSF/IL-3/IL-5 cytokine receptor family: from ligand recognition to initiation of signaling. Immunological Reviews 250(1): 277-302
2. Zhan Y, Xu Y, Lew AM (2012) The regulation of the development and function of dendritic cell subsets by GM-CSF: more than a hematopoietic growth factor. Molecular Immunology 52(1): 30-37
3. Van de Laar L, Coffer PJ, Woltman AM (2012) Regulation of dendritic cell development by GM-CSF: molecular control and implications for immune homeostasis and therapy. Blood 119(15): 3383-3393
4. Hamilton JA (2008) Colony-stimulating factors in inflammation and autoimmunity. Nat. Rev. Immunol. 8(7): 533-544
5. Kitamura T, Tange T, Terasawa T, Chiba S, Kuwaki T, Miyagawa K, Piao YF, Miyazono K, Urabe A, Takaku F (1989) Establishment and characterization of a unique human cell line that proliferates dependently on GM-CSF, IL- Technical

Technical Support

CONTACT US

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WEBSITE RESOURCES

Visit the website at www.irvinesci.com for technical resources and information including:

- Safety Data Sheets (SDS)
- Certificate of Analysis (CoA) (when available)
- FAQs
- Product literature
- Complete list of offices and contact information by country

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