

**Datasheet for 009-001-314****GM-CSF Human Recombinant Protein****Overview**

|                      |                                                |
|----------------------|------------------------------------------------|
| <b>Description:</b>  | GM-CSF Human Recombinant Protein - 009-001-314 |
| <b>Item No.:</b>     | 009-001-314                                    |
| <b>Size:</b>         | 20 µg                                          |
| <b>Applications:</b> | SDS-PAGE                                       |
| <b>Origin:</b>       | Human                                          |
| <b>Expressed in:</b> | E. coli                                        |

**Product Details**

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Background:</b>        | Granulocyte Macrophage Colony Stimulating Factor is produced in response to a number of inflammatory mediators by mesenchymal cells present in the hemopoietic environment and at peripheral sites of inflammation. Granulocyte Macrophage-CSF is able to stimulate the production of neutrophilic granulocytes, macrophages, and mixed granulocyte-macrophage colonies from bone marrow cells and can stimulate the formation of eosinophil colonies from fetal liver progenitor cells. GM-CSF can also stimulate some functional activities in mature granulocytes and macrophages. GM-CSF receptors shows significant homologies with other receptors for hematopoietic growth factors , including IL2-beta, IL-3 , IL -6 , IL-7 , EPO and the Prolactin receptors. Recombinant Human Granulocyte Macrophage CSF produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 127 amino acids and having a molecular weight of 14.5 kDa. |
| <b>Synonyms:</b>          | Granulocyte Macrophage Colony Stimulating Factor, Granulocyte Macrophage-CSF, Granulocyte-macrophage colony-stimulating factor; GM-CSF cytokine; Colony-stimulating factor; CSF; CSF2; Sargramostim; Molgramostin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Species of Origin:</b> | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Expressed in:</b>      | E. coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Type:</b>              | Recombinant Protein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Low Endotoxin:</b>     | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

**Target Details**

|                   |      |
|-------------------|------|
| <b>Gene Name:</b> | CSF2 |
|-------------------|------|

**Purity/Specificity:** Recombinant protein corresponding to amino acids 18 to 144 of mature human GM-CSF with addition of methionine on the N-terminus. Purity is greater than 98% as determined by reducing and non-reducing SDS-PAGE and by analytical RP-HPLC, each against a known standard.

**Relevant Links:**

- [UniProtKB - P04141](#)
- [NCBI](#)

## Application Details

**Tested Applications:** SDS-PAGE

**Application Note:** GM-CSF protein has been tested by SDS-PAGE and is suitable as a control for polyclonal or monoclonal anti-GM-CSF in immunological assays.

**Assay Dilutions:** All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.

**Other:** Biological Activity: Human GM-CSF is fully biologically active when compared to standard. The ED50, as determined by the dose-dependent induction of human TF-1 cell proliferation, is 0.14-0.2 ng/ml.

Endotoxin Level: Measured by LAL is <0.01ng/μg or <0.1EU/μg.

## Formulation

**Physical State:** Lyophilized

**Concentration:** 0.1 mg/mL by UV absorbance at 280 nm

**Buffer:** 0.01 M Sodium Phosphate, pH 7.5

**Preservative:** None

**Stabilizer:** None

**Reconstitution Volume:** 20μl (20-200μl)

**Reconstitution Buffer:** Restore with deionized water (or equivalent)

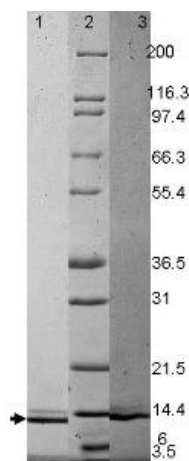
## Shipping & Handling

**Shipping Condition:** Ambient

**Storage Condition:** Store vial at -20° C prior to restoration. Dilute only prior to immediate use. Maintain sterility. This product DOES NOT contain preservative. DO NOT VORTEX. We recommend adding a carrier protein such as HSA or BSA to 0.1% (i.e. 1.0 mg/mL) . For best results aliquot contents and freeze at -20° C or colder. Avoid cycles of freezing and thawing. Centrifuge vial before each opening to dislodge contents from the cap and to clarify if contents are not clear after standing at room temperature.

**Expiration:** Expiration date is six (6) months from date of receipt.

## Images



### SDS-PAGE

SDS-PAGE using Rockland's recombinant human GM-CSF protein shows bands corresponding to GM-CSF (1 $\mu$ g) in lanes 1 (as unreduced protein) and lane 3 (as reduced protein, see arrowhead). Molecular weight estimation was made by comparison to prestained MW markers in lane 2 (Invitrogen Mark 12).

## Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.