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Datasheet for ABIN7318085

## GM-CSF Protein

### Overview

Quantity:	20 µg
Target:	GM-CSF (CSF2)
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Biological Activity:	Active

### Product Details

Purpose:	Recombinant Human GM-CSF/CSF2 Protein (HEK293 Cells)(Active)
Sequence:	Met 1-Glu144
Characteristics:	A DNA sequence encoding human GMCSF (NP_000749.2) (Met1-Glu144) was expressed.
Purity:	> 90 % as determined by reducing SDS-PAGE.
Endotoxin Level:	< 1.0 EU per µg as determined by the LAL method.
Biological Activity Comment:	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED50 for this effect is typically 0.1-0.6 ng/ml.

### Target Details

Target:	GM-CSF (CSF2)
Alternative Name:	GM-CSF/CSF2 ( <a href="#">CSF2 Products</a> )
Background:	Background: Granulocyte-macrophage colony-stimulating factor (GM-CSF) is one of an array of

## Target Details

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cytokines with pivotal roles in embryo implantation and subsequent development. Several cell lineages in the reproductive tract and gestational tissues synthesise GM-CSF under direction by ovarian steroid hormones and signalling agents originating in male seminal fluid and the conceptus. The pre-implantation embryo, invading placental trophoblast cells and the abundant populations of leukocytes controlling maternal immune tolerance are all subject to GM-CSF regulation. GM-CSF stimulates the differentiation of hematopoietic progenitors to monocytes and neutrophils, and reduces the risk for febrile neutropenia in cancer patients. GM-CSF also has been shown to induce the differentiation of myeloid dendritic cells (DCs) that promote the development of T-helper type 1 (cellular) immune responses in cognate T cells. The active form of the protein is found extracellularly as a homodimer, and the encoding gene is localized to a related gene cluster at chromosome region 5q31 which is known to be associated with 5q-syndrome and acute myelogenous leukemia. As a part of the immune/inflammatory cascade, GM-CSF promotes Th1 biased immune response, angiogenesis, allergic inflammation, and the development of autoimmunity, and thus worthy of consideration for therapeutic target. GM-CSF has been utilized in the clinical management of multiple disease processes. Most recently, GM-CSF has been incorporated into the treatment of malignancies as a sole therapy, as well as a vaccine adjuvant. While the benefits of GM-CSF in this arena have been promising, recent reports have suggested the potential for GM-CSF to induce immune suppression and, thus, negatively impact outcomes in the management of cancer patients. GM-CSF deficiency in pregnancy adversely impacts fetal and placental development, as well as progeny viability and growth after birth, highlighting this cytokine as a central maternal determinant of pregnancy outcome with clinical relevance in human fertility.

Checkpoint Immunotherapy Cancer Immunotherapy Targeted Therapy

Synonym: Granulocyte-Macrophage Colony-Stimulating Factor; GM-CSF; Colony-Stimulating Factor; CSF; Molgramostin; Sargramostim; CSF2; GMCSF

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Molecular Weight: 14.5 kDa

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NCBI Accession: [NP\\_000749](#)

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Pathways: [JAK-STAT Signaling](#), [Cellular Response to Molecule of Bacterial Origin](#)

## Application Details

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Restrictions: For Research Use only

## Handling

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Format: Lyophilized

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## Handling

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Reconstitution:	Please refer to the printed manual for detailed information.
Buffer:	Lyophilized from sterile PBS, pH 7.4. 1. Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. 2. Please contact us for any concerns or special requirements. Please refer to the specific buffer information in the hard copy of CoA.
Storage:	4 °C,-20 °C,-80 °C
Storage Comment:	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.