

Recombinant Mouse Csf2 protein, His/S-tagged

Cat. No. Csf2-223M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse Csf2 fused with His/S tag was expressed in E. coli.
Species	Mouse
Source	E.coli
Description	Granulocyte-macrophage colony-stimulating factor (GM-CSF) is one of an array of 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

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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.

Form	Lyophilized from sterile PBS, pH 7.4
Purity	> 95 % as determined by SDS-PAGE
Storage	Store at -70 centigrade. Avoid repeated freeze/thaw cycles.

GENE INFORMATION

Gene Name	Csf2 colony stimulating factor 2 (granulocyte-macrophage) [<i>Mus musculus</i>]
Official Symbol	Csf2
Synonyms	CSF2; colony stimulating factor 2 (granulocyte-macrophage); granulocyte-macrophage colony-stimulating factor; CSF; put. GM-CSF; colony-stimulating factor; granulocyte-macrophage colony stimulating factor 2; Csfgm; GMCSF; Gm-CSf; MGI-IGM; MGC151255; MGC151257;
Gene ID	12981
mRNA Refseq	NM_009969
Protein Refseq	NP_034099

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UniProt ID	P01587
Chromosome Location	11 B1.3; 11 32.13 cM
Pathway	Amoebiasis, organism-specific biosystem; Amoebiasis, conserved biosystem; Cytokine Signaling in Immune system, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Cytokines and Inflammatory Response (BioCarta), organism-specific biosystem; Fc epsilon RI signaling pathway, organism-specific biosystem;
Function	cytokine activity; cytokine activity; granulocyte macrophage colony-stimulating factor receptor binding; growth factor activity;

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