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Recombinant Mouse GM-CSF Protein(His Tag)

Catalog Number: PDMM100223

Note: Centrifuge before opening to ensure complete recovery of vial contents.

Description

Species Mouse

Source HEK293 Cells-derived Mouse GM-CSF protein Met1-Lys141, with an C-terminal His

Calculated MW Observed MW 20-30 kDa P01587 Accession

Not validated for activity **Bio-activity**

Properties

> 95% as determined by reducing SDS-PAGE. **Purity**

Endotoxin < 1.0 EU/mg of the protein as determined by the LAL method

Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -Storage

80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of

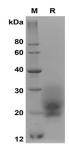
reconstituted samples are stable at < -20°C for 3 months.

Shipping This product is provided as lyophilized powder which is shipped with ice packs. Lyophilized from a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% **Formulation**

Reconstitution It is recommended that sterile water be added to the vial to prepare a stock solution

of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Mouse GM-CSF proteins, 2µg/lane of Recombinant Mouse GM-CSF proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 20-30 kDa

Background

For Research Use Only

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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 y, 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.

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