Datasheet for ABIN7195203

GM-CSF Protein (His tag)

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Overview

Quantity:	100 µg
Target:	GM-CSF (CSF2)
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Biological Activity:	Active
Purification tag / Conjugate:	This GM-CSF protein is labelled with His tag.

Product Details

Purpose:	Recombinant Human GM-CSF Protein (HEK293 Cells) (His Tag)(Active)
Sequence:	Ala18-Glu144
Characteristics:	A DNA sequence encoding the mature form of human GM-CSF (NP_000749.2) (Ala 18-Glu 144) was expressed, with a polyhistidine tag at the N-terminus.
Purity:	> 92 % as determined by SDS-PAGE
Endotoxin Level:	< 1.0 EU per µg of the protein 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)

Target Details

Alternative Name:	GM-CSF (CSF2 Products)
Background:	Background: 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 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. Synonym: CSF2 Protein, Human, GM-CSF Protein, Human, GMCSF Protein, Human
Molecular Weight:	16.9 kDa
NCBI Accession:	NP_000749
Pathways:	JAK-STAT Signaling, Cellular Response to Molecule of Bacterial Origin

Application Details

Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Reconstitution:	Please refer to the printed manual for detailed information.
Buffer:	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
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.