


Human GM-CSF protein

Cat #: PRP100013

Size: 5µg/20µg/100µg/1mg

Product Information

	Product Name: Human GM-CSF protein		
REF	Catalog Number: PRP100013	LOT	Lot Number: Refer to product label
	Purity: > 95 % as determined by SDS-PAGE		
	Storage: Store at -20°C		Preparation method: Yeast
	Shipping: The product is shipped at ambient temperature.		

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.

Sequence: Amino acid sequence derived from human GMCSF (NP_000749.2) (Ala18-Glu144) was expressed.

Protein length: The recombinant human GMCSF consists of 127 amino acids and predicts a molecular mass of 14.5 kDa. It migrates as an approximately 28-32 kDa band in SDS-PAGE under reducing conditions.

Formulation: Lyophilized from sterile PBS, pH 7.4.

Storage Instructions: Lyophilized Human GM-CSF protein product should be stored desiccated below -18°C. Upon reconstitution, the protein should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Usage notes: Always centrifuge tubes before opening. It is recommended to reconstitute the lyophilized Human GM-CSF protein using the buffer we provided not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

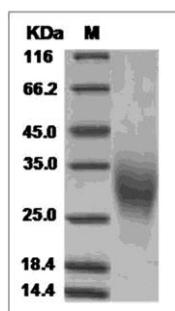


Fig. SDS-PAGE analysis of Human GM-CSF protein.

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