Product Datasheet

Recombinant Murine Granulocyte- Macrophage Colony Stimulating Factor (rMuGM-CSF) (orb1494926)

Description

GM-CSF was initially characterized as a factor that can support the in vitro colony formation of granulocyte-macrophage progenitors. It is also a growth factor for erythroid, megakaryocyte, and eosinophil progenitors. GM-CSF is produced by a number of different cell types (including T cells, B cells, macrophages, mast cells, endothelial cells, fibroblasts, and adipocytes) in response to cytokine or inflammatory stimuli. On mature hematopoietic cells, GM-CSF is a survival factor for and activates the effector functions of granulocytes, monocytes/macrophages, and eosinophils (1, 2). GM-CSF promotes a Th1 biased immune response, angiogenesis, allergic inflammation, and the development of autoimmunity (3 - 5). It shows clinical effectiveness in ameliorating chemotherapy-induced neutropenia, and GM-CSF transfected tumor cells are utilized as cancer vaccines (6, 7). The 22 kDa glycosylated GM-CSF, similar to IL-3 and IL-5, is a cytokine with a core of four bundled α-helices (8 - 10). Mature mouse GM-CSF shares 49% - 54% amino acid sequence identity with canine, feline, human, and porcine GM-CSF and 69% with rat GM-CSF. GM-CSF exerts its biological effects through a heterodimeric receptor complex composed of GM-CSF Rα/CD116 and the signal transducing common β chain (CD131) which is also a component of the high-affinity receptors for IL-3 and IL-5 (11, 12). In addition, GM-CSF binds a naturally occurring soluble form of GM-CSF Rα (13). The activity of GM-CSF is species specific between human and mouse. Mouse GM-CSF is only weakly active on rat cells, although rat GM-CSF is fully active on mouse cells (14, 15).

Endotoxins

Less than 1EU/mg of rmGM-CSF as determined by LAL method.

Preservatives

Lyophilized from a 0.2mm filtered solution in PBS, pH 7.4.

Form/Appearance

Lyophilized from a 0.2mm filtered solution in PBS, pH 7.4.

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Storage	This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.
Note	For research use only
Application notes	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at -20°C. Further dilutions should be made in appropriate buffered solutions.
Protein Sequence	MAPTRSPITV TRPWKHVEAI KEALNLLDDM PVTLNEEVEV VSNEFSFKKL TCVQTRLKIF EQGLRGNFTK LKGALNMTAS YYQTYCPPTP ETDCETQVTT YADFIDSLKT FLTDIPFECK KPVQK
Purity	> 95% by SDS-PAGE and HPLC analyses.
Source	Escherichia coli.
MW	Recombinant murine GM-CSF is a 14.2 kDa globular protein consisting of 124 amino acids residues.
Expiration Date	6 months from date of receipt.

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