GM-CSF Protein, Mouse (CHO)

Cat. No.:	HY-P7069
Synonyms:	rMuGM-CSF; CSF-2; MGI-1GM; Pluripoietin-alpha; Molgramostin; Sargramostim
Species:	Mouse
Source:	CHO
Accession:	Q14AD9 (A18-K141)
Gene ID:	12981
Molecular Weight:	15-19 kDa

PROPERTIES

AA Sequence	A P T R S P I T V T R P W K H V E A I K E A L N L L D D M P V T L N E E V E V V S N E F S F K K L T C V Q T R L K I F E Q G L R G N F T K L K G A L N M T A S Y Y Q T Y C P P T P E T D C E T Q V T T Y A D F I D S L K T F L T D I P F E C K K P V Q K
Biological Activity	The ED_{50} is <0.05 ng/mL as measured by mouse FDC-P1 cells, corresponding to a specific activity of >2 × 10^7 units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against PBS.
Endotoxin Level	<0.2 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Granulocyte-macrophage colony-stimulating factor (GM-CSF) is produced by a variety of cell types including T cells, macrophages, endothelial cells and fibroblasts upon receiving immune stimuli. It is an important hematopoietic growth factor and immune modulator. GM-CSF also has profound effects on the functional activities of various circulating leukocytes. GM-CSF stimulates multipotent progenitor cells depending on its concentration, the proliferation of macrophage progenitors at the lowest doses, followed by granulocyte, erythroid, eosinophil, megakaryocyte and multipotent progenitors. It also stimulates the differentiation of myeloid leukemic cells and controls eosinophil function in

some instances[1][2]. GM-CSF also enhances the functionality of mature cells, such as neutrophils. In neutrophils, GM-CSF potentiates degranulation, the release of oxygen and nitrogen radical ions, phagocytosis, and inhibits apoptosis[3]. GM-CSF inhibition in some animal models of autoimmune diseases showed significant beneficial effects[4]. GM-CSF also has many pro-inflammatory functions and recent data implicates GM-CSF as a key factor in Th17 driven autoimmune inflammatory conditions[5].

REFERENCES

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[3]. Gomez-Cambronero J, et al. Granulocyte-macrophage colony-stimulating factor is a chemoattractant cytokine for human neutrophils: involvement of the ribosomal p70 S6 kinase signaling pathway. J Immunol. 2003 Dec 15;171(12):6846-55.

[4]. Shiomi A, et al. GM-CSF as a therapeutic target in autoimmune diseases. Inflamm Regen. 2016 Jul 5;36:8.

[5]. van Nieuwenhuijze A, et al. GM-CSF as a therapeutic target in inflammatory diseases. Mol Immunol. 2013 Dec;56(4):675-82.

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