Overview

Synonyms	rHu GM-CSF, Sargramostim, Recombinant Human GM-CSF, Sargramostim;
Description	**Granulocyte Macrophage Colony Stimulating Factor (GM-CSF)** was initially characterized as a growth factor that can support the in vitro colony formation of granulocyte-macrophage progenitors. It is produced by a number of different cell types (including activated T cells, B cells, macrophages, mast cells, endothelial cells and fibroblasts) in response to cytokine of immune and inflammatory stimuli. Besides granulocyte-macrophage progenitors, GM-CSF is also a growth factor for erythroid, megakaryocyte and eosinophil progenitors. On mature hematopoietic, monocytes/ macrophages and eosinophils. GM-CSF has also been reported to have a functional role on non-hematopoitic cells. It can induce human endothelial cells to migrate and proliferate. Additionally, GM-CSF can also stimulate the proliferation of a number of tumor cell lines, including osteogenic sarcoma, carcinoma and adenocarcinoma cell lines. iXCells **Human Granulocyte Macrophage Colony Stimulating Factor (GM-CSF) (Sargramostim)**, is a single, glycosylated polypeptide chain containing 127 amino acids and having a molecular mass of about 24,000-35,000 Da, as shown in SDS-PAGE. It differs from natural human GM-CSF by a substitution of leucine at position 23 (R to L), and the carbohydrate moiety may be different from the native protein.
Species	Human
Source	*P. pastoris*
Sequence	`The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Pro-Ala-Arg-Ser.`

Properties

Specificity	The ED50 as determined by the dose-dependant stimulation of the proliferation of human TF-1 cells (human erythroleukemic indicator cell line) is less than 0.2 ng/ml, corresponding to a specific activity of 5.0×10^6 IU/ mg.
Measured Molecular Weight	24,000-35,000 Da
Purity	The purity level of iXCells Recombinant Human GM-CSF is greater than 95.0%, as determined by the following methods: (a) RP-HPLC anaylsis (b) Reducing and non-reducing SDS-PAGE silver-stained gel analysis
Formulation	The protein was lyophilized after extensive dialysis against 10mM Tris-HCl, pH8.5, 4% Mannitol, 1% Sucrose buffer.
Reconstitution	It is recommended to reconstitute the lyophilized Sargramostim in sterile 18 M©-cm H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.
Endotoxin Level	Less than 0.1 ng/µg (1 EU/µg) of sargramostim
Storage	Although lyophilized iXCells Sargramostim can remain stable at room temperature for three weeks, it is best stored desiccated below -18°C. Upon reconstitution Sargramostim 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 avoid freeze-thaw cycles.

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