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32-1285: GM CSF CHO Recombinant Protein(Discontinued)

Alternative Name : CSF-2,MGI-1GM,GM-CSF,Pluripoietin-alpha,Molgramostin,Sargramostim,MGC131935,MGC138897.

Description

Source : Chinese Hamster Ovary cells. GM CSF Human Recombinant produced in CHO cells is a 14.6kDa globular protein consisting of 127 amino acids, having two intramolecular disulfide bonds and two N-linked glycosylation sites. Granulocyte Macrophage Colony Stimulating Factor (GM-CSF) was first characterized as a growth factor that supports the in-vitro colony formation of granulocytes-macrophages progenitor cells (1, 2). It is a pleiotropic cytokine and a member of a family of endogenous cytokines of the hematopoietic system. GM-CSF is produced as a response to immune or inflammatory stimuli by activated cells of the hematopoietic system such as T cells, B cells, macrophages, mast cells and also fibroblasts and alveolar epithelial cells. It plays an important role in regulating the proliferation, differentiation, survival and activation of hematopoietic cells such as granulocytes and monocytes ,neutrophiles, basophiles and eosonophoiles, erythroid cells, megakaryocytes and T cells (3,4). Human and mouse GM-CSF have about 56% homology and are species specific. Human GM-CSF is not active on mouse cells and vice versa. It is active on canine and feline cells (5, 6).GMCSF is 144 amino acids, 22kDa glycoprotein. It is composed of four bundles alpha helices. Its receptor is heterodimers with a ligand-specific alpha subunit and a betac (c) subunit that is shared with the interleukin IL-3 and IL-5 receptors. This unusual form of receptor assembly likely applies also to IL-3 and IL-5 receptors. Cross-linking the two receptor subunits is required for receptor activation and signaling (7, 8).GMCSF has been shown to be involved in maturation, mobilization and antigen presentation of myeloid dentritic cells (DCs) in-vivo or ex-vivo. This function promotes Th1 immune responses, cytotoxcity, anti-angiogenesis as well as allergic inflammation, and the development of autoimmunity (9-11). Therefore GMCSF can be used in immunotherapy for the treatment of immune suppressed and immune-compromised patients as well as in veterinary medicine for the same purpose (12-14). GM-CSF is also important in regulation of embryo development and pregnancy and specifically in embryo implantation and subsequent development (15, 16).

Product Info

Amount :	20 µg
Purification :	Greater than 95% as determined by SDS-PAGE.
Content :	The GM CSF Human filtered solution (0.27mg/ml) contains 20mM TRIS HCl buffer pH 7.2.
Storage condition :	Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).Avoid multiple freeze-thaw cycles.
Amino Acid :	APARSPSPST QPWEHVNAIQ EARRLLNLSR DTAAEMNETV EVISEMFDLQ EPTCLQTRLE LYKQGLRGSL TKLKGPLTMM ASHYKQHCPP TPETSCATQI ITFESFKENL KDFLLVIPFD CWEPVQE

Application Note

ED50 < 0.1 ng/ml, determined by the dose dependent stimulation of the proliferation of human TF-1 cells (human erythroleukemic indicator cell line).

For Research Use Only. Not for use in diagnostic/therapeutics procedures.