

M-CSF/CSF1 Protein, Human, Recombinant (E. coli)

General Information

Synonyms:	MCSF;MGC31930;Macrophage Colony Stimulating Factor;CSF-1;MGI-IM;colony stimulating factor 1;Lanimostim;CSF1
Protein Construction:	Glu33-Ser190
Species:	Human
Expression Host:	E. coli
Accession:	P09603-3
Molecular Weight:	~28 kDa (Non-reducing conditions)

QC Testing

Biological Activity:	ED 50 of 1.0-3.0 ng/ml, measured by cell proliferation assay of M-NFS-60, corresponding to a specific activity of 3.3×10^5 - 1.0×10^6 units/mg.
Purity:	> 95% as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized after extensive dialysis against 50 mM Tris-HCl, pH 8.0.

Preparation and Storage

Reconstitution:

It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH₂O or PBS or Tris-HCl, pH 8.0 up to 100 μ g/ml.

Stability & Storage:

Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Macrophage-Colony Stimulating Factor (M-CSF), also known as Colony Stimulating Factor-1 (CSF-1), is a hematopoietic growth factor. It can stimulate the survival, proliferation and differentiation of mononuclear phagocytes, in addition to the spreading and motility of macrophages. In mammals, it exists three isoforms, which invariably share an N-terminal 32-aa signal peptide, a 149-residue growth factor domain, a 21-residue transmembrane region and a 37-aa cytoplasmic tail. M-CSF is mainly produced by monocytes, macrophages, fibroblasts, and endothelial cells. M-CSF interaction with its receptor, c-fms, has been implicated in the growth, invasion, and metastasis of several diseases, including breast and endometrial cancers. The biological activity

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of human M-CSF is maintained within the 149-aa growth factor domain, and it is only active in the disulfide-linked dimeric form, which is bonded at Cys63.

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