

## Recombinant Mouse M-CSF, Tag Free

### General Information

<b>Synonym</b>	C87615 Protein, Mouse; Csfm Protein, Mouse; MCSF Protein, Mouse; op Protein, Mouse.
<b>Gene ID</b>	12977
<b>Accession #</b>	P07141-1
<b>Molecular Characterization</b>	Met1-Glu262
<b>M.Wt</b>	26 kDa
<b>Source</b>	293T cells
<b>Bio Activity</b>	Determined by the dose-dependent stimulation of murine CTLL-2 cells: ED50: < 0.1 ng/mL Specific activity: > 1x10 <sup>7</sup> units/mg.

### Components and Storage

<b>Formulation</b>	The protein is dissolved in PBS buffer.
<b>Storage</b>	This product is stable after storage at: <ul style="list-style-type: none"> <li>• 4°C for 1 week;</li> <li>• -20°C for 3 months.</li> <li>• <b>Please avoid repeated freeze-thaw cycles.</b></li> </ul>

### Quality Control

<b>Purity</b>	≥ 95%, by SDS-PAGE and HPLC.
<b>Endotoxin Level</b>	< 0.1 ng/μg

For detail QC information, please see the CoA.

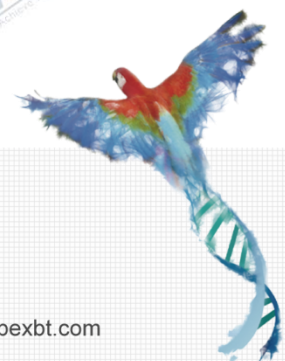
### Background

Macrophage colony-stimulating factor 1, also known as CSF-1, M-CSF, Lanimostim and CSF1, is a single-pass membrane protein which is disulfide-linked as a homodimer or heterodimer. Granulocyte / macrophage colony-stimulating factors are cytokines that act in hematopoiesis by controlling the production, differentiation, and function of 2 related white cell populations of the blood, the granulocytes and the monocytes-macrophages.

M-CSF/CSF-1 is known to facilitate monocyte survival, monocyte-to-macrophage conversion, and macrophage proliferation. M-CSF/CSF-1 is a secreted cytokine which influences hemopoietic stem cells to differentiate into macrophages or other related cell types. It binds to the Colony stimulating factor 1 receptor. M-CSF/CSF-1 may also be involved in development of the placenta. The active form of M-CSF/CSF-1 is found extracellularly as a disulfide-linked homodimer, and is thought to be produced by proteolytic cleavage of membrane-bound precursors. M-CSF/CSF-1 induces cells of the monocyte/macrophage lineage. It also plays a role in immunological defenses, bone metabolism, lipoproteins clearance, fertility and pregnancy. Upregulation of M-CSF/CSF-1 in the infarcted myocardium may have an active role in healing not only through its effects on cells of monocyte/macrophage lineage, but also by regulating endothelial cell chemokine expression.

## Reference

1. Pandit J, Bohm A, Jancarik J, Halenbeck R, Koths K, Kim SH. Three-dimensional structure of dimeric human recombinant macrophage colony-stimulating factor. *Science*. 1992 Nov 20;258(5086):1358-62. doi: 10.1126/science.1455231. PMID: 1455231.
2. Tokai M, Kawasaki H, Kikuchi Y, Ouchi K. Cloning and characterization of the CSF1 gene of *Saccharomyces cerevisiae*, which is required for nutrient uptake at low temperature. *J Bacteriol*. 2000 May;182(10):2865-8. doi: 10.1128/jb.182.10.2865-2868.2000. PMID: 10781556; PMCID: PMC101996.
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