

## M-CSF/CSF1 Protein, Human, Recombinant (His & Avi)

### General Information

Synonyms:	CSF-1;Lanimostim;M-CSF;MCSF;MGC31930;CSF1
Protein Construction:	Glu33-Asn190
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P09603-1
Molecular Weight:	21.3 kDa (predicted). Due to glycosylation, the protein migrates to 28-34 kDa based on Tris-Bis PAGE result.

### QC Testing

Biological Activity:	<ol style="list-style-type: none"><li>1. Immobilized Human M-CSF, His Tag at 0.5µg/ml (100µl/well) on the plate. Dose response curve for Human M-CSF R, hFc Tag with the EC50 of 14.2ng/ml determined by ELISA (QC Test).</li><li>2. Human M-CSF, His Tag captured on CM5 Chip via Anti-his Antibody can bind Human M-CSF R, hFc Tag with an affinity constant of 0.24 nM as determined in SPR assay.</li><li>3. Measured in a cell proliferation assay using RAW264.7 cells. The ED50 for this effect is 2.5 - 7.0 ng/mL.</li></ol>
Purity:	> 95% as determined by Tris-Bis PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS (pH 7.4). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 µg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

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

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CSF-1, also known as M-CSF, is a four alpha-helical-bundle cytokine that is the primary regulator of macrophage survival, proliferation and differentiation. CSF-1 is also essential for the survival and proliferation of osteoclast progenitors. CSF-1 is a cytokine that plays an essential role in the regulation of survival, proliferation and differentiation of hematopoietic precursor cells, especially mononuclear phagocytes, such as macrophages and monocytes.

### Reference

Cannarile M A, et al. Colony-stimulating factor 1 receptor (CSF1R) inhibitors in cancer therapy[J]. Journal for ImmunoTherapy of Cancer, 2017, 5(1):53.

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