

# Human M-CSF/CSF-1 Protein

Cat. No. CSF-HM401

## Description

<b>Source</b>	Recombinant Human M-CSF/CSF-1 Protein is expressed from HEK293 with His tag and Avi tag at the C-Terminus. It contains Glu33-Asn190.
<b>Accession</b>	P09603-1
<b>Molecular Weight</b>	The protein has a predicted MW of 21.3 kDa. Due to glycosylation, the protein migrates to 28-34 kDa based on Bis-Tris PAGE result.
<b>Endotoxin</b>	Less than 1EU per $\mu\text{g}$ by the LAL method.
<b>Purity</b>	> 95% as determined by Bis-Tris PAGE > 95% as determined by HPLC

## Formulation and Storage

<b>Formulation</b>	Lyophilized from 0.22 $\mu\text{m}$ filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.
<b>Reconstitution</b>	Centrifuge the tube before opening. Reconstituting to a concentration more than 100 $\mu\text{g}/\text{ml}$ is recommended. Dissolve the lyophilized protein in distilled water.
<b>Storage</b>	-20 to -80°C for 12 months as supplied from date of receipt. -80°C for 3 months after reconstitution. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.

## Background

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 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.

## Assay Data

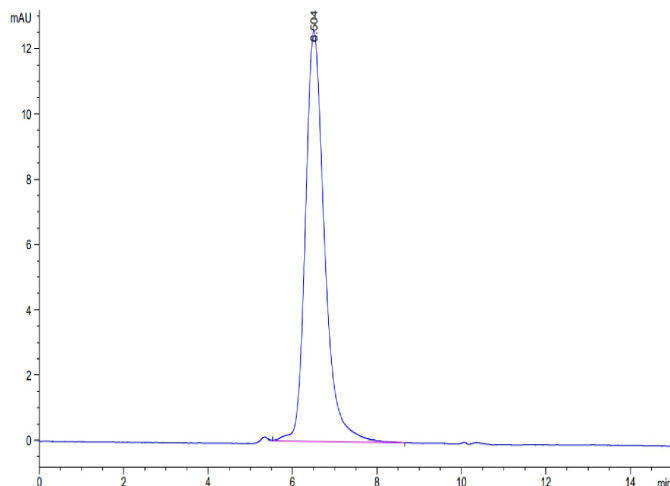
### Bis-Tris PAGE



Human M-CSF on Bis-Tris PAGE under reduced conditions. The purity is greater than 95%.

### SEC-HPLC

Assay Data

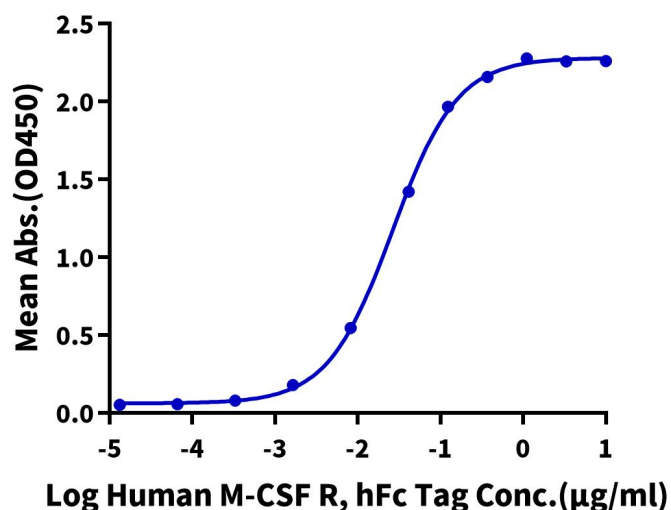


The purity of Human M-CSF is greater than 95% as determined by SEC-HPLC.

ELISA Data

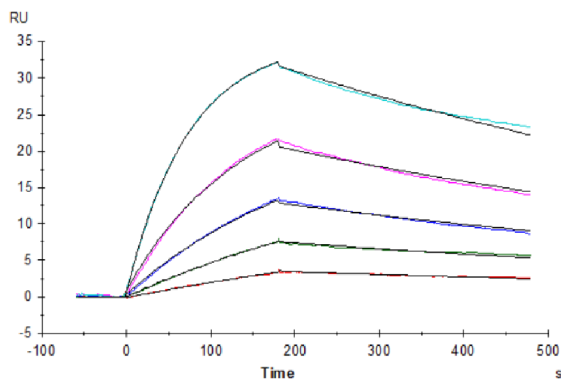
**Human M-CSF, His Tag ELISA**

0.05µg Human M-CSF, His Tag Per Well



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 26.3ng/ml determined by ELISA (QC Test).

SPR Data

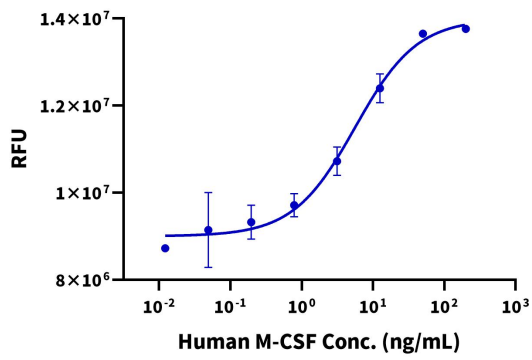


Human M-CSF, His Tag captured on CM5 Chip via Anti-his Antibody can bind Human M-CSF R, hFc Tag with an affinity constant of 0.24 nM as determined in SPR assay (Biacore T200).

Cell Based Assay

Assay Data

Recombinant Human M-CSF Bioactivity



Measured in a cell proliferation assay using RAW264.7 cells. The ED50 for this effect is 2.5 - 7.0 ng/mL.