Human M-CSF / CSF-1 Protein, His Tag

Catalog # MCF-H5247

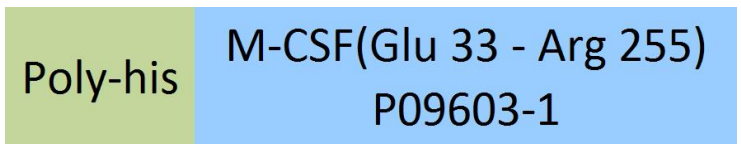
Synonym

M-CSF,CSF-1,Lanimostim

Source

Human M-CSF, His Tag(MCF-H5247) is expressed from human 293 cells (HEK293). It contains AA Glu 33 - Arg 255 (Accession # P09603-1). Predicted N-terminus: His

Molecular Characterization



This protein carries a polyhistidine tag at the N-terminus.

The protein has a calculated MW of 26.0 kDa. The protein migrates as 36-45 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method / rFC method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

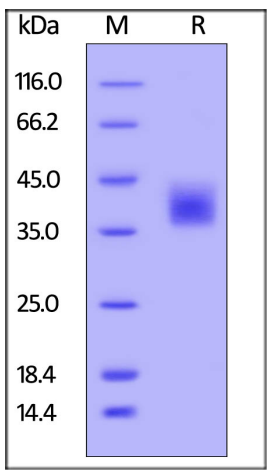
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

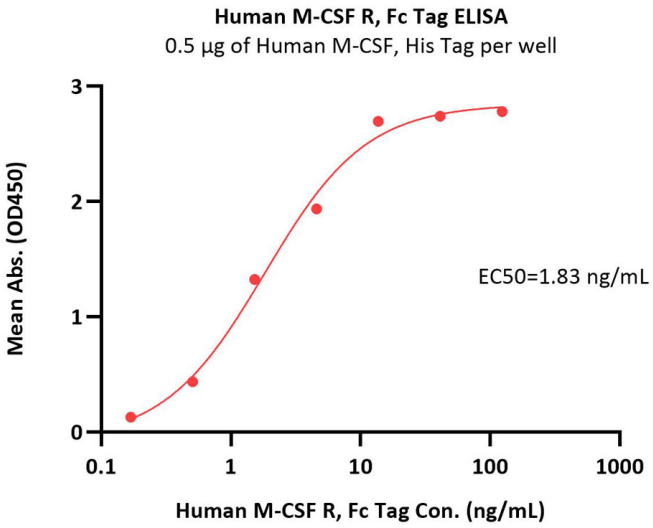
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

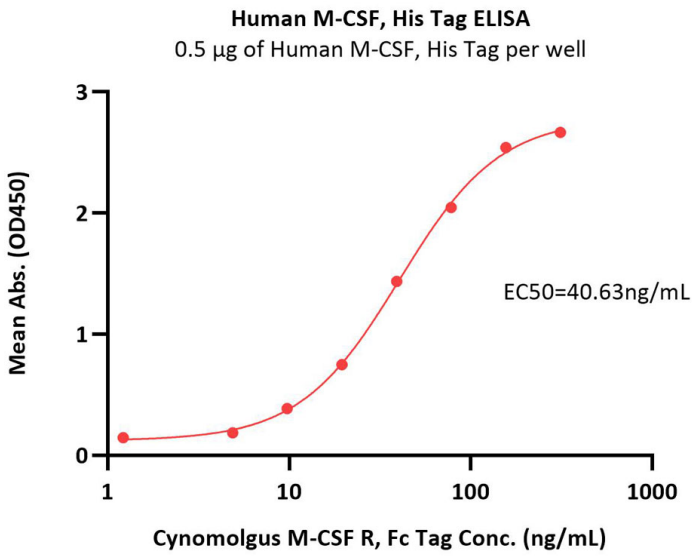


Human M-CSF, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-ELISA

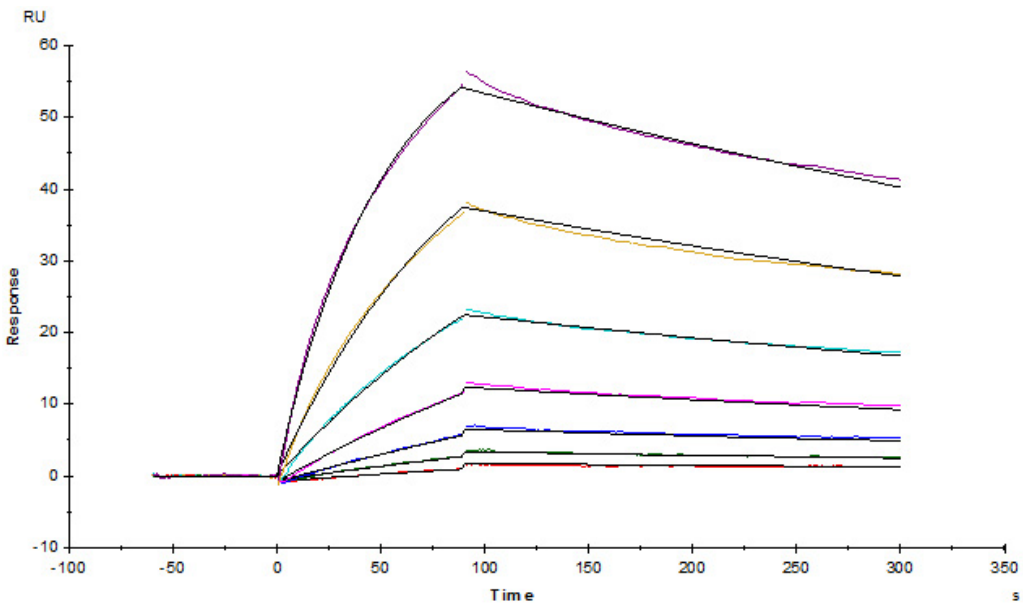


Immobilized Human M-CSF, His Tag (Cat. No. MCF-H5247) at 5 μg/mL (100 μL/well) can bind Human M-CSF R, Fc Tag (Cat. No. CSR-H5258) with a linear range of 0.1-4 ng/mL (QC tested).



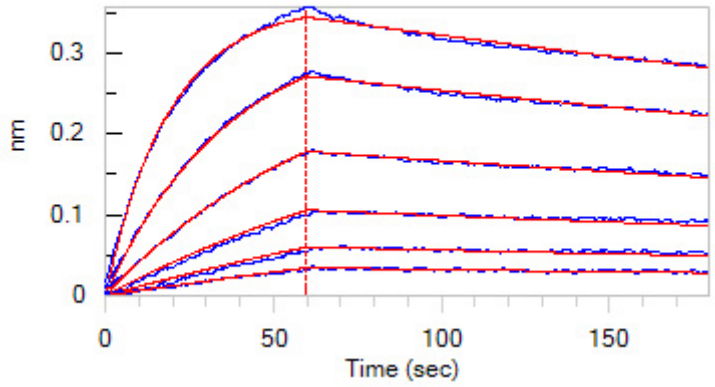
Immobilized Human M-CSF, His Tag (Cat. No. MCF-H5247) at 5 μg/mL (100 μL/well) can bind Cynomolgus M-CSF R, Fc Tag (Cat. No. CSR-C5252) with a linear range of 1-78 ng/mL (Routinely tested).

Bioactivity-SPR

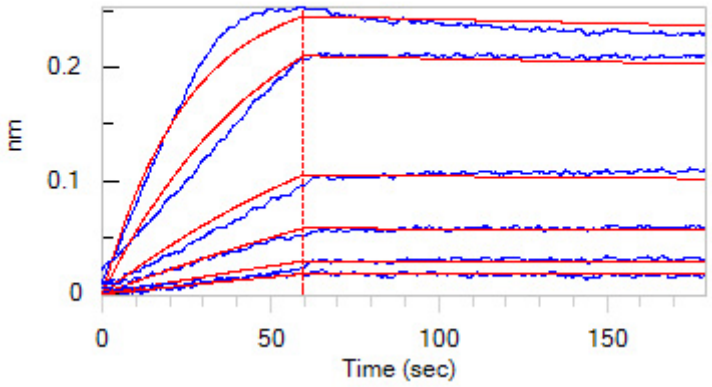


Human M-CSF, His Tag (Cat. No. MCF-H5247) captured on CM5 Chip via anti-His antibody can bind Human M-CSF R, Fc Tag, low endotoxin (Cat. No. CSR-H5258) with an affinity constant of 1.9 nM as determined in SPR assay (Biacore T200) (Routinely tested).

Bioactivity-BLI



Loaded Human M-CSF, His Tag (Cat. No. MCF-H5247) on HIS1K Biosensor, can bind Human M-CSF R, Fc Tag, low endotoxin (Cat. No. CSR-H5258) with

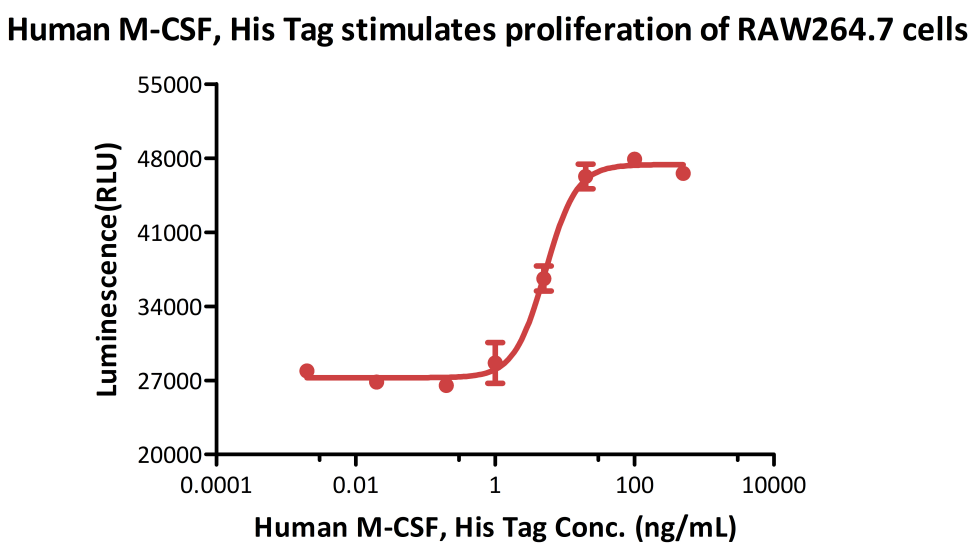


Loaded Human M-CSF R, Fc Tag, low endotoxin (Cat. No. CSR-H5258) on Protein A Biosensor, can bind Human M-CSF, His Tag (Cat. No. MCF-H5247)

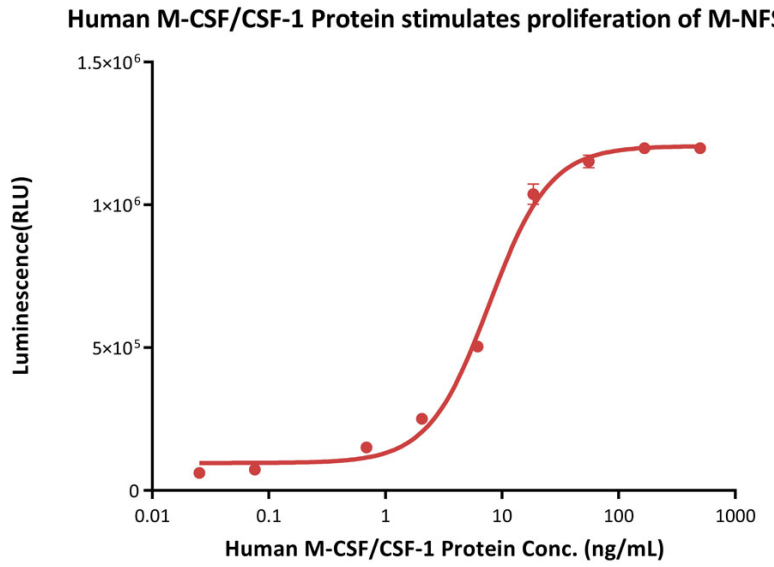
an affinity constant of 3.29 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

with an affinity constant of 0.365 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Bioactivity-CELL BASE



Human M-CSF, His Tag (Cat. No. MCF-H5247) stimulates proliferation of RAW264.7 cells. The EC50 for this effect is 4.40-5.27 ng/mL (Routinely tested).



The bio-activity of Human M-CSF / CSF-1 Protein, His Tag (Cat. No. MCF-H5247) was determined by dose-dependent stimulation of the proliferation of M-NFS-60 cells. The EC50 for this effect is 7.747 ng/mL (Routinely tested).

Background

The colony stimulating factor 1 (CSF1), also known as macrophage colony-stimulating factor (M-CSF), is a secreted cytokine which influences hematopoietic stem cells to differentiate into macrophages or other related cell types. Eukaryotic cells also produce M-CSF in order to combat intercellular viral infection. It is one of the three experimentally described colony-stimulating factors. M-CSF binds to the colony stimulating factor 1 receptor. Macrophage colony-stimulating factor has been shown to interact with PIK3R2. M-CSF (or CSF-1) is a hematopoietic growth factor that is involved in the proliferation, differentiation, and survival of monocytes, macrophages, and bone marrow progenitor cells. Locally produced M-CSF in the vessel wall contributes to the development and progression of atherosclerosis.