

Human M-CSF / CSF-1 Protein, premium grade

Catalog # MCF-H5218



Features and Advantages

- Seamless Transition from Preclinical to Clinical: Same cell clone, process, and QC as GMP products.
- Enhanced Production Standards: AOF raw materials, pharma-grade excipients, Grade B+A (ISO 5) environment.
- Comprehensive Quality Control: Additional strict testing for process impurities, sterility, and mycoplasma.
- Cost-Effective Solution: GMP-comparable quality at an economical price for early development.
- Risk Mitigation: Enhanced safety through rigorous impurity control and comprehensive testing.

Synonym

M-CSF, CSF-1, Lanimostim

Source

Human M-CSF Protein, premium grade (MCF-H5218) is expressed from human 293 cells (HEK293). It contains AA Glu 33 - Arg 255 (Accession # [P09603-1](#)).

Predicted N-terminus: Glu 33

It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage.

GMP-MCFH24 is the GMP version of this MCF-H5218. These two proteins display indistinguishable performance profiles, thereby ensuring a seamless transition for end users from early preclinical stage to later clinical phases.

Molecular Characterization

M-CSF(Glu 33 - Arg 255)
P09603-1

This protein carries no "tag".

The protein has a calculated MW of 25.1 kDa. The protein migrates as 39 kDa±3 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 0.01 EU per µg by the LAL method / rFC method.

Host Cell Protein

<0.5 ng/µg of protein tested by ELISA.

Host Cell DNA

<0.02 ng/µg of protein tested by qPCR.

Sterility

Negative

Mycoplasma

Negative

Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

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

ACRO Quality Management System

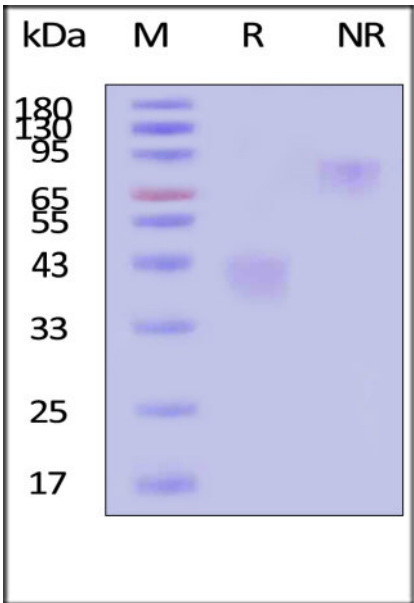
- [QMS\(ISO, GMP\)](#).
- [Quality Advantages](#)
- [Quality Control Process](#)

Quality Description

ACRO's Research-grade products are suitable for a wide range of cell culture applications, particularly for research use in academic institutions. These products are sterilized by filtration, followed by lyophilization where applicable. Typical specifications include endotoxin levels of <0.01 EU/μg and purities >95%. Biological activity is calibrated against WHO/NIBSC standards when available.

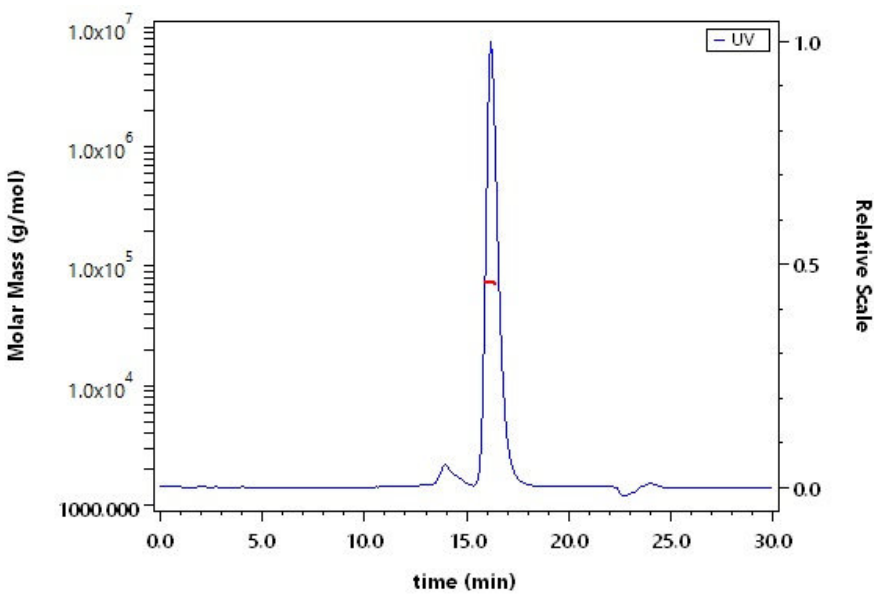
ACRO's Premium-grade (Pre-GMP) products are characterized by their high quality and enhanced safety profiles, making them ideal for early-stage discovery and manufacturing processes in cell therapy companies. A key advantage is their seamless transition to corresponding GMP-grade versions. Biological activity is calibrated against WHO/NIBSC standards when available. Typical specifications include endotoxin levels of <0.01 EU/μg and purities >95%. In addition, rigorous testing is conducted to ensure the absence of mycoplasma, HCD, and HCP, thereby guaranteeing product safety.

SDS-PAGE



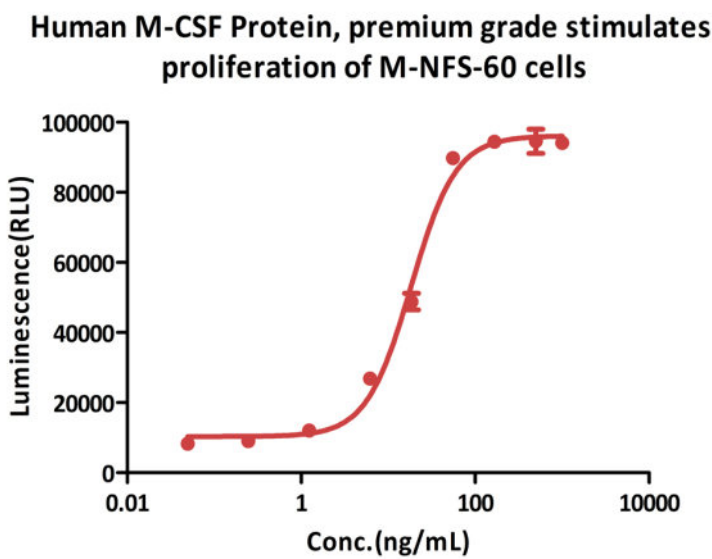
Human M-CSF Protein, premium grade on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

SEC-MALS



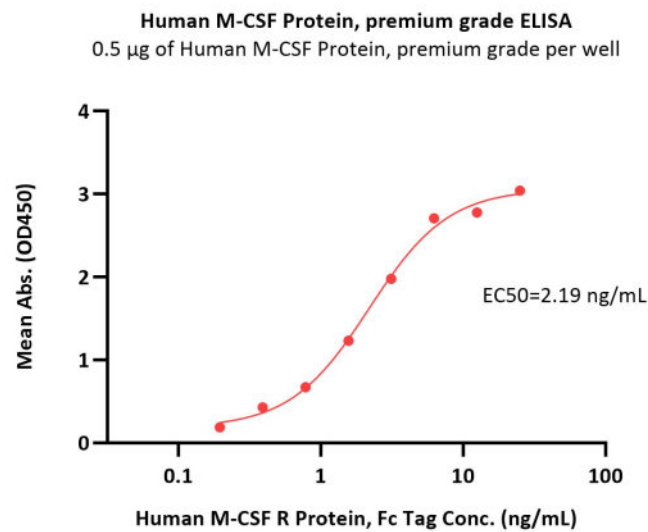
The purity of Human M-CSF Protein, premium grade (Cat. No. MCF-H5218) is more than 90% and the molecular weight of this protein is around 65-80 kDa verified by SEC-MALS.

Bioactivity-CELL BASE



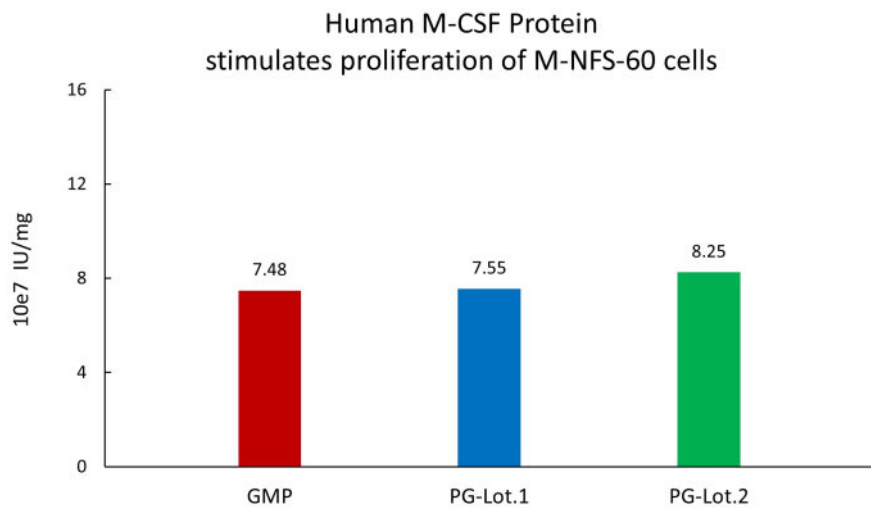
Human M-CSF Protein, premium grade (Cat. No. MCF-H5218) stimulates proliferation of M-NFS-60 cells. The specific activity of Human M-CSF Protein, premium grade is >6.00 x 10⁷ IU/mg, which is calibrated against WHO International Standard (NIBSC code: 89/512) (QC tested).

Bioactivity-ELISA



Immobilized Human M-CSF Protein, premium grade (Cat. No. MCF-H5218) at 5 µg/mL (100 µL/well) can bind Human M-CSF R Protein, Fc Tag (Cat. No. CSR-H5258) with a linear range of 0.2-3.1 ng/mL (QC tested).

Bioactivity-Stability



Cell-based assay demonstrates batch-to-batch consistency between Acro's GMP and PG M-CSF.

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.



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