

Recombinant Mouse CSF-1/M-CSF Protein

Catalog No.: RP01216 Recombinant 13 Publications

Sequence Information

Species Gene ID Swiss ProtMouse 12977 P07141-1

Tags C-His

Synonyms

MCSF;M-CSF;CSF-1;Lanimostim;CSF1

Product Information

Source

Purification

HEK293 cells

≥ 95 % as determined by SDS-

PAGE.

Calculated MW Observed MW

30.19 kDa 40-55 kDa

Endotoxin

< 0.01 EU/ μg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4.Contact us for customized product form or formulation.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

| <u>a</u> | | 400-999-6126 |
|-----------|---|---------------------------|
| \bowtie | | cn.market@abclonal.com.cn |
| • | Т | www.abclonal.com.cn |

Background

Macrophage colony-stimulating factor 1, also known as CSF-1, M-CSF, 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 monocytesmacrophages. M-CSF/CSF-1 is known to facilitate monocyte survival, monocyte-tomacrophage 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.

Basic Information

Description

Recombinant Mouse CSF-1/M-CSF Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Met1-Glu262) of mouse M-CSF/CSF-1 (Accession $\#NP_031804.3$.) fused with a $6\times His$ tag at the C-terminus.

Bio-Activity

1.Measured in a cell proliferation assay using mouse bone marrow cells. The ED $_{50}$ for this effect is 7.5-30.1 ng/mL, corresponding to a specific activity of $3.32\times10^4\sim1.33\times10^5$ units/mg.| 2.Measured in a cell proliferation assay using M-NFS-60 mouse myelogenous leukemia lymphoblast cells.The ED $_{50}$ for this effect is 8.31-33.24 ng/mL, corresponding to a specific activity of $3.01\times10^4\sim1.20\times10^5$ units/mg.

Shipping

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Storage

Store at -20° C. Store the lyophilized protein at -20° C to -80° C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

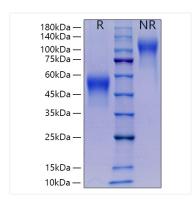
Avoid repeated freeze/thaw cycles.

Operational Notes

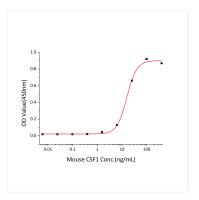
For your safety and health, please wear a lab coat and disposable gloves for handling.

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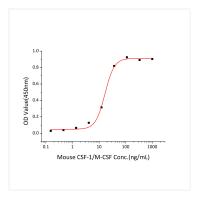
Validation Data



Recombinant Mouse CSF-1/M-CSF Protein was determined by SDS-PAGE under reducing (R) and non-reducing (NR) conditions.



Recombinant Mouse CSF-1/M-CSF stimulates cell proliferation of the mouse bone marrow cells. The ED $_{50}$ for this effect is 7.5-30.1 ng/mL, corresponding to a specific activity of $3.32\times10^4\sim1.33\times10^5$ units/mg.



Recombinant Mouse CSF-1/M-CSF stimulates cell proliferation of the M-NFS-60 mouse myelogenous leukemia lymphoblast cells. The ED $_{50}$ for this effect is 8.31-33.24 ng/mL, corresponding to a specific activity of $3.01\times10^4\sim1.20\times10^5$ units/mg.