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Recombinant human M-CSF protein (Qk075)

Type: Stem cells

Available for purchase: Unit Size (µg): 25, 50, 100, 500, 1000

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Product Information

Macrophage colony-stimulating factor (M-CSF) is a cytokine that regulates the survival, proliferation, differentiation, and functional activation of monocytes, such as macrophages and dendritic cells. M-CSF has been used *in vitro* for the differentiation of human induced pluripotent stem cell (iPSC)-derived macrophages as well as the maintenance and development of monocytes in hematopoietic stem cell culture. M-CSF has also been used to influence macrophage polarization towards an anti-inflammatory or M2 macrophage phenotype.

Qkine M-CSF is a highly bioactive, animal origin-free (AOF), carrier protein-free 36.8 kDa recombinant protein with exceptional lot-to-lot consistency.

This protein is also available as GMP compliant Cell Therapy Grade, to enquire email support@qkine.com.

Alternative protein names

Colony-stimulating factor-1, CSF-1, CSF1, macrophage colony stimulating factor, macrophage colony-stimulating factor 1, M-CSF, MCSF, Lanimostim, Flanimostim, MGC31930, MCSF, M CSF, Qk75

Molecular weight

36 kDa (dimer)

Protein Uniprot number

High purity human M-CSF protein (Uniprot: P09603)

Species reactivity

- human
- species similarity:
- mouse - 74%
- rat - 54%
- bovine - 66%

Product Information

- >98%, by SDS-PAGE quantitative densitometry
- Expressed in *E. coli*
- Animal origin-free (AOF) and carrier protein-free
- Manufactured in our Cambridge, UK laboratories
- Lyophilized from acetonitrile, TFA

Reconstitution instructions

- Resuspend in 10 mM HCl (Reconstitution solution A) at >50 µg/ml

Featured applications

- Differentiation of iPSC-derived macrophages
- Culture of bone marrow-derived macrophages
- Maintenance of macrophages
- Polarization of anti-inflammatory or M2 macrophage
- Differentiation of alveolar macrophages to study fibrotic disorders
- Osteoclast culture

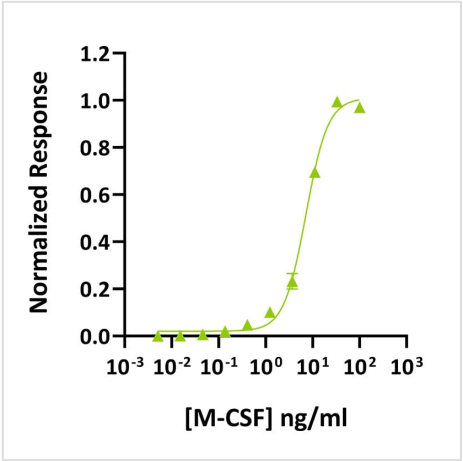
Further quality assays

- Mass spectrometry: single species with expected mass
- Recovery from stock vial: >95%
- Endotoxin: <0.05 EU/µg protein

Scientific Information

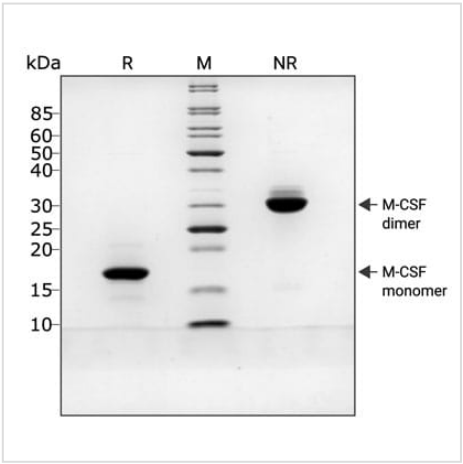
Bioactivity

M-CSF activity was determined using the proliferation of NFS-60 mouse myeloid leukemia cells. Cells were treated in triplicate with a serial dilution of M-CSF for 48 hours. Cell viability was measured using the CellTiter-Glo (Promega) luminescence assay and normalized. EC50 = 196 pM (7.2 ng/ml). Data from Qk075 lot #204507.



Purity

Recombinant M-CSF migrates as a major band at approximately 36 kDa (dimer) in non-reducing (NR) conditions. Upon reduction (R), only the monomer band at approximately 18 kDa is visible. No contaminating protein bands are present. The purified recombinant protein (3 µg) was resolved using 15% w/v SDS-PAGE in reduced (+β-mercaptoethanol, R) and non-reduced (NR) conditions and stained with Coomassie Brilliant Blue R250. Data from Qk075 batch #204507.



Original product page: https://qkine.com/product/recombinant-human-m-csf-protein-qk075/

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