

Recombinant human GM-CSF protein (Qk076)



Type: Stem cells

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

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Product Information

Granulocyte-macrophage colony-stimulating factor (GM-CSF) is a [hematopoietic growth factor](#) involved in the differentiation and activation of monocytes such as macrophages and dendritic cells, and granulocytes such as neutrophils, eosinophils, and basophils. GM-CSF is commonly used in cell culture to stimulate the differentiation and maturation of human-induced pluripotent stem cells or peripheral blood monocytes to myeloid cells.

Qkine human GM-CSF is composed of 144 amino acids with a molecular weight of 14.6 kDa. This protein is [animal origin-free](#), carrier protein-free, tag-free, and non-glycosylated to ensure a homogenous population with exceptional lot-to-lot consistency. Qk076 is suitable for reproducible and high-quality neutrophils and other relevant cell cultures.

This protein is also available as GMP compliant [Cell Therapy Grade](#), to enquire email ryan.weber@matriq.com.

Alternative protein names

Granulocyte macrophage colony-stimulating factor, GM-CSF, Colony Stimulating Factor-2, CSF-2, MGI-1GM, Pluripoietin-alpha, Molgramostin, Sargramostim, MGC131935, MGC138897, GM CSF, GMCSF, Qk76

Molecular weight

14.6 kDa (monomer)

Protein Uniprot number

High purity human protein (Uniprot number: P04141)

Species reactivity

- human

- species similarity:
- mouse - 53%
- rat - 62%
- bovine - 68%
- porcine - 70%

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 sterile-filtered water at >50 µg/ml

Featured applications

- Asymmetric stem cell self-renewal in human keratinocytes
- Differentiation of peripheral blood monocytes to myeloid lineages
- Differentiation of stem cells into erythrocytes and megakaryocytes
- Generation of immature dendritic cells
- Generation of iPSC-derived granulocytes
- Polarization of macrophages

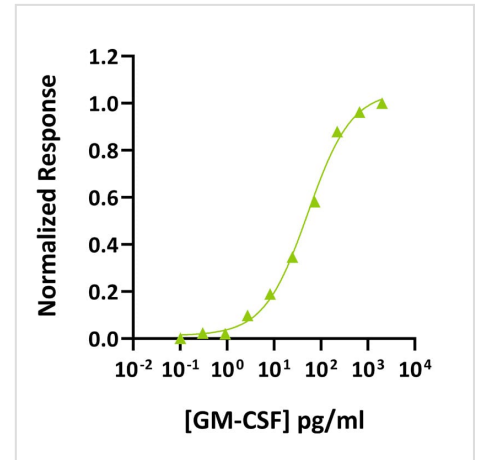
Further quality assays

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

Scientific Information

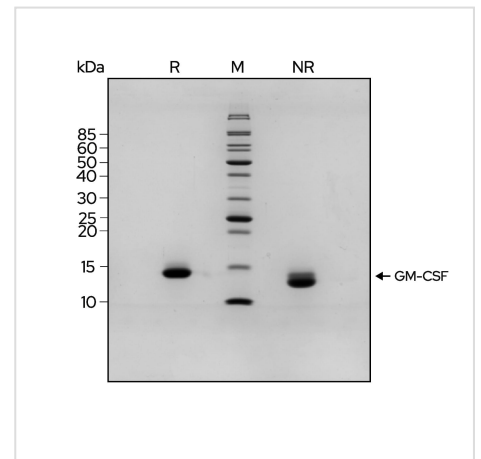
Bioactivity

GM-CSF activity was determined using proliferation of TF-1 human myeloid leukemia cells. Cells were treated in triplicate with a serial dilution of GM-CSF for 48 hours. Cell viability was measured using the CellTiter-Glo (Promega) luminescence assay. EC50 = 52.5 ng/ml (3.6 nM). Data from Qk076 lot #204525.



Purity

Recombinant GM-CSF migrates as a major band at approximately 14.6 kDa in non-reducing (NR) and reduced (R) conditions. 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 conditions and stained with Coomassie Brilliant Blue R250. Data from Qk076 batch #204525.



Original product page: <https://ryan.calliope-alpha.ts.net/product/recombinant-human-gm-csf-protein-qk076/>

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