Biotinylated Human GM-CSF Protein, epitope tag free, ultra sensitivity, primary amine labeling

Catalog # GMF-H8214

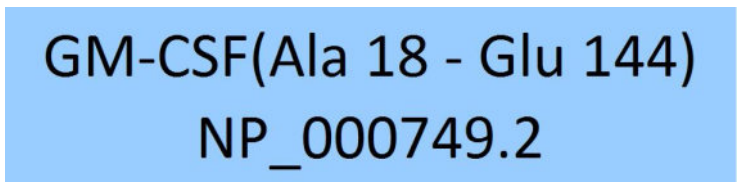
Synonym

GM-CSF,CSF2,MGC131935

Source

MABSol® Biotinylated Human GM-CSF, epitope tag free, primary amine labeling (GMF-H8214) is expressed from human HEK293 cells. It contains AA Ala 18 - Glu 144 (Accession # NP_000749.2). It is the biotinylated form of Human GM-CSF, premium grade (GMF-H4214).
Predicted N-terminus: Ala 18

Molecular Characterization



The product does NOT contain any epitope tags. The protein has a calculated MW of 14.5 kDa. The protein migrates as 18-28 kDa on a SDS-PAGE gel under reducing (R) condition due to glycosylation.

Labeling

The primary amines in the side chains of lysine residues and the N-terminus of the protein are conjugated with biotins using standard chemical labeling method. A standard biotin reagent (13.5 angstroms) is used in this product.

Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

Endotoxin

Less than 1.0 EU per μg by the LAL 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

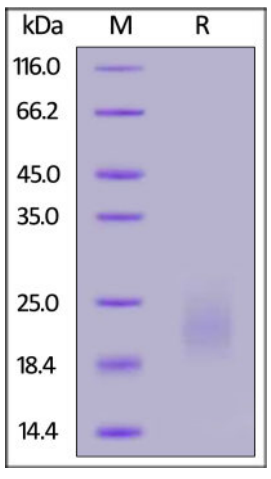
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

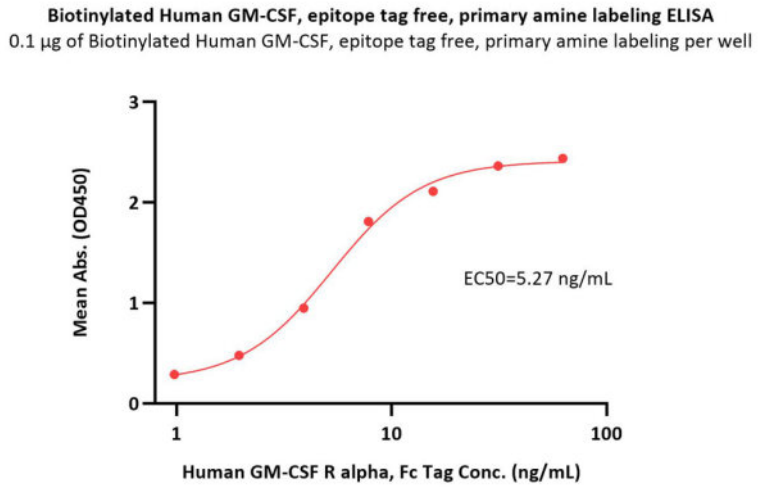
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



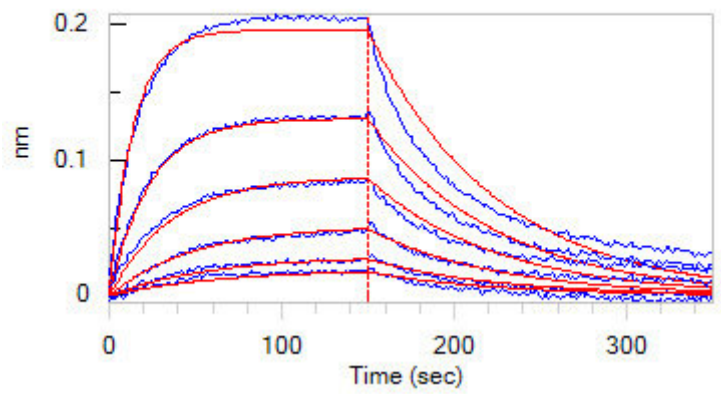
Biotinylated Human GM-CSF, epitope tag free, primary amine labeling on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-ELISA



Immobilized Biotinylated Human GM-CSF, epitope tag free, primary amine labeling (Cat. No. GMF-H8214) at 1 μg/mL (100 μL/well) on streptavidin (Cat. No. STN-N5116) precoated (0.2 μg/well) plate can bind Human GM-CSF R alpha, Fc Tag (Cat. No. GRA-H5255) with a linear range of 1-8 ng/mL (Routinely tested).

Bioactivity-BLI



Loaded Biotinylated Human GM-CSF, epitope tag free, primary amine labeling (Cat. No. GMF-H8214) on SA Biosensor, can bind Human GM-CSF R alpha, His Tag (SPR verified) (Cat. No. GRA-H52H7) with an affinity constant of 23.1 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Background

Granulocyte-macrophage colony-stimulating factor (GM-CSF) is also known as Colony stimulating factor 2 (granulocyte-macrophage), is a cytokine initially characterized by its ability to induce colonies of granulocytes and macrophages from myeloid progenitor cells, and is secreted by macrophages, T cells, mast cells, endothelial cells and fibroblasts. GM-CSF is a cytokine that functions as a white blood cell growth factor. GM-CSF stimulates stem cells to produce granulocytes (neutrophils, eosinophils, and basophils) and monocytes. Monocytes exitthe circulation and migrate into tissue, whereupon they mature into macrophages and dendritic cells. Thus, it is part of the immune/inflammatory cascade, by which activation of a small number of macrophages can rapidly lead to an increase in their numbers, a process crucial for fighting infection. The active form of the protein is found extracellularly as a homodimer. Human GM-CSF glycosylated in its mature form. As a part of the immune/inflammatory cascade, GM-CSF promotes Th1 biased immune response, angiogenesis, allergic inflammation, and the development of autoimmunity, and thus worthy of consideration for therapeutic target. GM-CSF has also recently been evaluated in clinical trials for its potential as a vaccine adjuvant in HIV-infected patients. The preliminary results have been promising. GM-CSF is also used as a medication to stimulate the production of white blood cells following chemotherapy.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.