Biotinylated Recombinant Human GM-CSF

Catalog Number: BT7954

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human GM-CSF protein Ala18-Glu144 Accession # P04141
N-terminal Sequence Analysis	Ala18
Structure / Form	Biotinylated via amines
Predicted Molecular Mass	14.5 kDa

SPECIFICATIONS

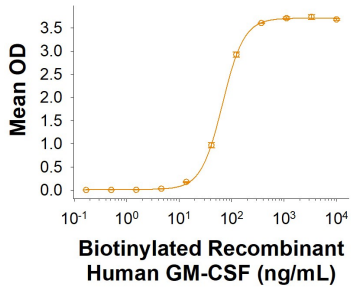
SDS-PAGE	14-28 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human GM-CSF (Catalog # BT7954) binds Recombinant Human GM-CSF Rα (Catalog # 706-GR) in the presence of Recombinant Human Common β Chain His-tag (Catalog # 9960-CB) with an ED_{50} of 20.0-240 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in water.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

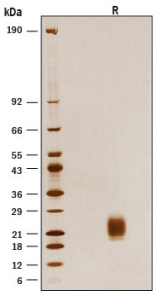
DATA

Binding Activity



Biotinylated Recombinant Human GM-CSF Protein Binding Activity. Biotinylated Recombinant Human GM-CSF Protein (Catalog # BT7954) binds Recombinant Human GM-CSF Rα (Catalog # 706-GR) in the presence of Recombinant Human Common β Chain His-tag (Catalog # 9960-CB) with an ED_{50} of 20.0-240 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human GM-CSF Protein SDS-PAGE. 1 µg/lane of Biotinylated Recombinant Human GM-CSF Protein (Catalog # BT7954) was resolved with SDS-PAGE under reducing (R) condition and visualized by silver staining, showing bands at 14-28 kDa.

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BACKGROUND

GM-CSF was initially characterized as a factor that can support the *in vitro* colony formation of granulocyte-macrophage progenitors. It is also a growth factor for erythroid, megakaryocyte, and eosinophil progenitors. GM-CSF is produced by a number of different cell types (including T cells, B cells, macrophages, mast cells, endothelial cells, fibroblasts, and adipocytes) in response to cytokine or inflammatory stimuli. On mature hematopoietic cells, GM-CSF is a survival factor for and activates the effector functions of granulocytes, monocytes/macrophages, and eosinophils (1, 2). GM-CSF promotes a Th1 biased immune response, angiogenesis, allergic inflammation, and the development of autoimmunity (3-5). It shows clinical effectiveness in ameliorating chemotherapy-induced neutropenia, and GM-CSF transfected tumor cells are utilized as cancer vaccines (6, 7). The 22 kDa glycosylated GM-CSF, similar to IL-3 and IL-5, is a cytokine with a core of four bundled α-helices (8-12). Mature human GM-CSF shares 63%-70% amino acid sequence identity with canine, feline, porcine, and rat GM-CSF and 54% with mouse GM-CSF. GM-CSF exerts its biological effects through a heterodimeric receptor complex composed of GM-CSF Rα/CD116 and the signal transducing common β chain (CD131) which is also a component of the high-affinity receptors for IL-3 and IL-5 (13, 14). In addition, GM-CSF binds a naturally occurring soluble form of GM-CSF Rα (15). Human GM-CSF is active on canine and feline cells but not on murine cells (16-18).

References:

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