Granulocyte-macrophage colony-stimulating factor (GM-CSF), active, human recombinant, expressed in Nicotiana benthamiana, His Tag, animal free

Catalog No:	99867
Lot No:	
Source:	Nicotiana benthamiana
UniProtKB:	P04141
Molecular formula:	$C_{699}H_{1077}N_{201}O_{206}S_8$
Extinction coefficient:	Abs. 0.1% (1g/l) = 0.898 (A 280 nm)
Molecular weight:	rHuman GM-CSF is a glycosylated polypeptide chain containing 127 amino acids (18-144 aa CSF2_HUMAN P04141), fused to 10 His tag at N-terminal. rHuman GM-CSF migrates as a broad band between 15 and 25 kDa due to post-translational modification, in particular glycosilation.
p.I:	6.21
Purity:	>97% as determined by SDS-PAGE gel.
Endotoxin level:	<0.04 EU/ µg protein (LAL method)

Sequence:

HHHHHHHHHH APARSPSPST QPWEHVNAIQ EARRLLNLSR DTAAEMNETV EVISEMFDLQ EPTCLQTRLE LYKQGLRGSL TKLKGPLTMM ASHYKQHCPP TPETSCATQI ITFESFKENL KDFLLVIFDC WEPVQE.

Description:

GMCSF is a cytokine that stimulate the growth and differentiation of hematopoietic precursor cells from various lineages, including granulocytes, macrophages, eosinophils and erythrocytes. Is involved in differentiation of dendritic cells and is a key factor in differentiation pathways leading form stem cells. GMCSF is produced by several cell types as monocytes, fibroblast, endothelial cells and T-Lymphocytes in response to a number of inflammatory mediators present in the hemopoietic environment and peripheral site of inflammation. Human GMCF is an important therapeutic cytokine used in the treatment of myeloidleukemia, neutropenia and aplastic anemia and it could become interesting in the treatment following bone marrow transplantation. It performs biological activity by binding to a receptor specific receptor complex which is composed of a cytokine-specific alpha chain and B chain shared with the receptors for interleukin-3 and interleukin-5. GMCSR has been identified to mediate the activation of Jak-Stat and MAPK pathways.

Source:

Produced by transient expression of human recombinant Granulocyte-macrophage colony-stimulating factor(GM-CSF) innon-transgenic plants. GM-CSF contains a 10-His-tag at the N-terminal end and is purified by sequential chromatography (Affinity and Anionic exchange-FPLC). Contains no animal–derived components or impurities.

Formulation:

Recombinant human GM-CSF is lyophilized from 10 mM PBS buffer pH 7.6 and 0.2 M NaCl.

Reconstitution recommendation:

Lyophilized protein should be reconstituted in water to a concentration of 25-50 ng/µl.

Storage and Stability:

This lyophilized preparation is stable at 2-8ºC for short term,for long storage it should be kept at -20ºC. Reconstituted rhGM-CSF should be stored in working aliquots at –20°C. Repeated freezing and thawing is not recommended.

Purity Confirmation:

The protein was resolved by SDS polyacrylamide gel electrophoresis and the gel was stained with Coomassie blue.

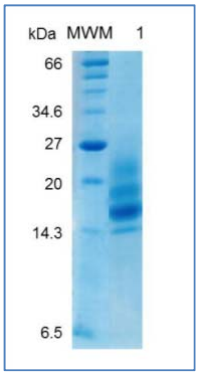


Figure 1. SDS-PAGE analysis of recombinant GM-CSF. Samples were loaded in 15% SDS-polyacrylamide gel and stained with Coomassie blue.
Lane 1: Molecular weight marker (kDa)
Lane 2: rhuman GM-SCF

Serological Confirmation:

The protein was electrophoresed under reducing condition on a 15% SDS-polyacrylamide gel, transferred by electroblotting to a NC membrane and visualized by immune-detection with specific GM-CSF antibody.

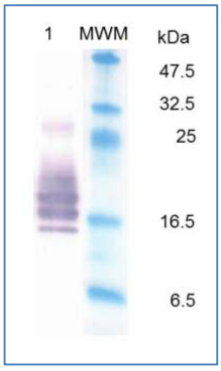
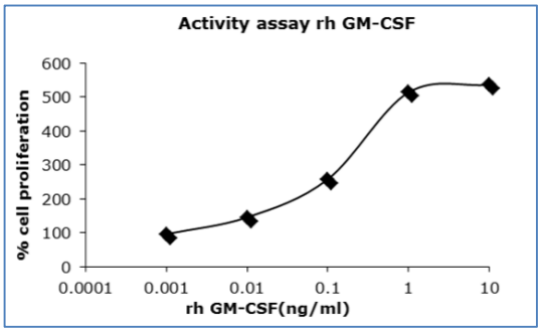


Figure 2. Western Blot analysis of recombinant GM-CSF.
Lane 1: rhuman GM-CSF
MWM: Molecular weight marker (kDa).

Biological Activity:

The activity of recombinant human GM-CSF is determined by the dose-dependent induction of human TF-1 proliferation cell (*Cell proliferation was measured by MTT method). ED50 ≤ 0.05 ng/ml.



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