recombinant human GM-CSF

Targets (2) Enzymes (1) Biointeractions (1)

IDENTIFICATION

Name

recombinant human GM-CSF

Accession Number

DB05386

Type

Biotech

Groups

Investigational

Biologic Classification

Protein Based Therapies
Other protein based therapies

Description

Human GM-CSF (Granulocyte/Monocyte-Colony Stimulating Factor) is a differentially glycosylated factor produced mainly by activated T cells and macrophages. Endothelial cells and fibroblasts can also produce GM-CSF after exposure to TNF-α, IL-1, IL-2 and IFN-γ. GM-CSF is found associated with extracellular matrix and in membrane-bound formats too. GM-CSF stimulates proliferation, activation and differentiation of macrophages and granulocytes and their progenitors.

Protein chemical formula

Not Available

Protein average weight

Sequences

Not Available

Synonyms

Not Available

International/Other Brands

Leucotropin

Categories

Not Available

UNII

Not Available

CAS number

Not Available

PHARMACOLOGY

Indication

Investigated for use/treatment in adverse effects (chemotherapy) and bone marrow transplant.

Structured Indications

Not Available

Pharmacodynamics

Not Available

Mechanism of action

This drug activates mononuclear phagocytes, promotes migration of epithelial cells, and further regulates cytokine production. In 2 recent placebo-controlled studies involving venous leg ulceration, subcutaneous perilesional injections of recombinant human granulocyte-macrophage colony-stimulating factor were found to be significantly better than placebo in the time to complete wound healing. In other studies, recombinant human

Several case reports have also demonstrated the use of recombinant human granulocyte-macrophage colony-stimulating factor for postsurgical wounds, chronic leg ulcers of sickle cell anemia patients, and refract and refractory pyoderma gangrenosum.

U	Granulocyte-macrophage colony-stimulating factor receptor subunit alpha
	Not Available
	Human
U	GM-CSF receptor alpha subunit
	Not Available
	Human

Absorption

Not Available

Volume of distribution

Not Available

Protein binding

Not Available

Metabolism

Not Available

Route of elimination

Not Available

Half life

Not Available

Clearance

Not Available

Toxicity

Not Available

Pathways

Not Available

Pharmacogenomic Effects/ADRs

Not Available

INTERACTIONS

Drug Interactions

Not Available

Food Interactions

Not Available

REFERENCES

General References

1. Sardana R, Dudani AK, Tackaberry E, Alli Z, Porter S, Rowlandson K, Ganz P, Altosaar I: Biologically active human GM-CSF produced in the seeds of transgenic rice plants. Transgenic Res. 2007 Dec;16(6):713-21. Epub 2007 Feb 16. [PubMed:17985214]
2. Rosas M, Gordon S, Taylor PR: Characterisation of the expression and function of the GM-CSF receptor alpha-chain in mice. Eur J Immunol. 2007 Sep;37(9):2518-28. [PubMed:17694571]

External Links

PubChem Substance

347910111

CLINICAL TRIALS

Clinical Trials

Search

PHASE	STATUS	PURPOSE	CONDITIONS	COUNT

1	Active Not Recruiting	Treatment	Prostate Cancer	1
1	Recruiting	Basic Science	Autoimmune Pulmonary Alveolar Proteinosis	1
1, 2	Completed	Treatment	Prostatic Neoplasms	1
2	Recruiting	Treatment	Lung Cancer Metastatic	1

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PHARMACOECONOMICS

Manufacturers

Not Available

Packagers

Not Available

Dosage forms

Not Available

Prices

Not Available

Patents

Not Available

PROPERTIES

State

Solid

Experimental Properties

Not Available

TAXONOMY

Not Available

Kingdom

Organic Compounds

Super Class

Organic Acids

Class

Carboxylic Acids and Derivatives

Sub Class

Amino Acids, Peptides, and Analogues

Direct Parent

Peptides

Alternative Parents

Not Available

Substituents

Not Available

Molecular Framework

Not Available

External Descriptors

Not Available

TARGETS

1. Granulocyte-macrophage colony-stimulating factor receptor subunit alpha

Kind

Human

Pharmacological action

Unknown

General Function

Receptor activity

Specific Function

Low affinity receptor for granulocyte-macrophage colony-stimulating factor. Transduces a signal that results in the proliferation, differentiation, and functional activation of hematopoietic cells.

Gene Name

CSF2RA

Uniprot ID

P15509

Uniprot Name

Granulocyte-macrophage colony-stimulating factor receptor subunit alpha

Molecular Weight

46206.185 Da

2. GM-CSF receptor alpha subunit

Kind

Protein

Organism

Human

Pharmacological action

Unknown

General Function

Not Available

Specific Function

CSF2RA

Uniprot ID

Q16498

Uniprot Name

GM-CSF receptor alpha subunit

Molecular Weight

3014.39 Da

ENZYMES

1. Cholinesterase

Kind

Protein

Organism

Human

Pharmacological action

Unknown

Actions

Inhibitor

General Function

Identical protein binding

Specific Function

Esterase with broad substrate specificity. Contributes to the inactivation of the neurotransmitter acetylcholine. Can degrade neurotoxic organophosphate esters.

Gene Name

BCHE

Uniprot ID