

CD131 Protein, Rat, Recombinant (hFc)

General Information

Synonyms:	colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage); colony stimulating factor 2 receptor, β , low-affinity (granulocyte-macrophage)
Protein Construction:	A DNA sequence encoding the rat CSF2Rb (NP_598239.1)(Met1-Trp440) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: His 23
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	Q78ZF5
Molecular Weight:	75.1 kDa (predicted); 123 and 89 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C . For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Colony stimulating factor 2 receptor, beta, low-affinity (CSF2RB) also known as CD131 antigen (CD131), cytokine receptor common subunit beta, GM-CSF/IL-3/IL-5 receptor common beta-chain, interleukin 3 receptor/granulocyte-macrophage colony stimulating factor 3 receptor, beta (IL3RB), is the common beta chain of the high affinity receptor for IL-3, IL-5 and CSF. Defects in this protein have been reported to be associated with

protein alveolar proteinosis (PAP). CD131 belongs to the type I cytokine receptor family. The cluster of differentiation (cluster of designation) (often abbreviated as CD) is a protocol used for the identification and investigation of cell surface molecules present on white blood cells initially but found in almost any kind of cell of the body, providing targets for immunophenotyping of cells. Defects in CD131/CSF2RB are the cause of pulmonary surfactant metabolism dysfunction type 5 (SMDP5). SMDP5 is a rare lung disorder due to impaired surfactant homeostasis. It is characterized by alveolar filling with floccular material that stains positive using the periodic acid-Schiff method and is derived from surfactant phospholipids and protein components. Excessive lipoproteins accumulation in the alveoli results in severe respiratory distress.

Reference

Selleri S, et al. (2008) GM-CSF/IL-3/IL-5 receptor common beta chain (CD131) expression as a biomarker of antigen-stimulated CD8+ T cells. *J Transl Med.* 6:17.

Woodcock, et al. (1994) Three residues in the common beta chain of the human GM-CSF, IL-3 and IL-5 receptors are essential for GM-CSF and IL-5 but not IL-3 high affinity binding and interact with Glu21 of GM-CSF. *EMBO J.* 13(21): 5176-85.

Dirksen U, et al. (1997) Human pulmonary alveolar proteinosis associated with a defect in GM-CSF/IL-3/IL-5 receptor common beta chain expression. *J Clin Invest.* 100(9): 2211-7.

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