

Human CD131 / CSF2RB / IL3RB / IL5RB Protein (His Tag)

Catalog Number: 10516-H08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CD131; CDw131; IL3RB; IL5RB; SMDP5

Protein Construction:

A DNA sequence encoding the extracellular domain (Met 1-Trp 443) of human CSF2RB (NP_000386.1) expressed, fused with a polyhistidine-tag at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Bio Activity:

Measured by its binding ability in a functional ELISA.

1. Immobilized human CD131 at 10 µg/ml (100 µl/well) can bind biotinylated human EPOR/Fc with a linear range of 0.16-4 µg/ml.

2. Measured by its binding ability in a functional ELISA. Immobilized human CD131 at 10 µg/ml (100 µl/well) can bind human Fc-GMCSF(Cat: 10015-H01H), The EC₅₀ of human Fc-GMCSF(Cat: 10015-H01H) is 250-500 ng/ml.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Trp 17

Molecular Mass:

The recombinant human CSF2RB consists of 438 amino acids and has a predicted molecular mass of 50 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rh CSF2RB is approximately 50-55 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

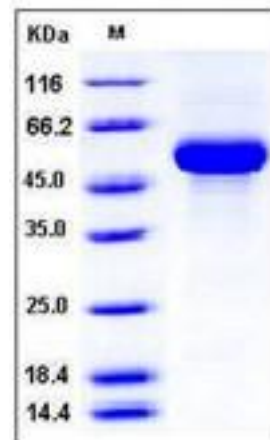
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

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.

References

1. Salleri 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.
2. 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.
3. 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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