# Data Sheet (Cat.No.TMPY-01650)

TargetMol

## CD131 Protein, Human, Recombinant (His)

### General Information

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| Synonyms: | CDw131;IL5RB;colony stimulating factor 2 receptor, β, low-affinity (granulocyte-macrophage);CD131;IL3RB;colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage);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. Predicted N terminal: Trp 17 |
| Species: | Human |
| Expression Host: | HEK293 Cells |
| Accession: | P32927-1 |
| Molecular Weight: | 50 kDa (predicted); 50-55 kDa (reducing conditions) |

### QC Testing

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| Biological Activity: | Measured by its binding ability in a functional ELISA. Immobilized human CD131 at 10 μg/ml (100 μl/well) can bind human Fc-GMCSF, The EC50 of human Fc-GMCSF is 250-500 ng/ml. |
| Purity: | > 97 % as determined by SDS-PAGE |
| Endotoxin: | < 1.0 EU/μg of the protein as determined by the LAL method. |
| Formulation: | Lyophilized from a solution filtered through a 0.22 μm 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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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.