Data Sheet (Cat.No.TMPY-01055)

TargetMol

IL-4R alpha Protein, Human, Recombinant (His)

General Information

Synonyms:	interleukin 4 receptor;IL4RA;IL4R;CD124;IL-4RA
Protein Construction:	A DNA sequence encoding the human IL4R (NP_000409.1) precursor (Met 1-His 232) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Met 26
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P24394-1
Molecular Weight:	25.18 kDa (predicted); 43-48 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	1. Measured by its binding ability in a functional ELISA. Immobilized human IL4R-His at 10 μg/mL (100 μl/well) can bind biotinylated human IL4 . The EC50 of biotinylated human IL4 is 20.8-48.5 ng/mL. 2.Measured by its ability to inhibit IL-4-induced proliferation of TF-1 human erythroleukemic cells. The ED50 for this effect is typically 5-25 ng/ml in the presence of 0.2 ng/mL of Recombinant human IL-4.
Purity:	≥ 98 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
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

The cluster of differentiation (CD) system is commonly used as cell markers in Immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules associating with the immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified. Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then alters the behavior of the cell. Some CD proteins do not take part in the cell signal process but have other functions such as cell adhesion. CD124, also known as the interleukin 4 receptor (IL4R), is a type I transmembrane protein that can regulate IgE antibody production in B cells through binding to interleukin 4 and interleukin 13 and promote differentiation of Th2 cells through binding to interleukin 4. The membrane-bound form of CD124 can be hydrolyzed to a soluble form which can inhibit IL4-mediated cell proliferation and IL5 upregulation by T-cells.

Reference

Zola H,et al.(2007) CD molecules 2006-human cell differentiation molecules. J Immunol Methods. 318 (1-2): 1-5.
Ho IC,et al.(2009) GATA3 and the T-cell lineage: essential functions before and after T-helper-2-cell differentiation. Nat Rev Immunol. 9 (2): 125-35.
Matesanz-Isabel J,et al.(2011) New B-cell CD molecules. Immunology Letters.134 (2): 104-12.