Data Sheet (Cat.No.TMPY-06359)

TargetMol

IL-2RG Protein, Human, Recombinant (His & Avi), Biotinylated

General Information

Synonyms:	IMD4;CIDX;IL-2RG;SCIDX;P64;CD132;interleukin 2 receptor, gamma;SCIDX1;interleukin 2 receptor, γ
Protein Construction:	A DNA sequence encoding the human IL2RG (NP_000197.1) (Met1-Ala262) was expressed with a C-terminal polyhistidine tag followed by an AVI tag. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed. Predicted N terminal: Leu 23
Species:	Human
Expression Host:	HEK293 Cells
Accession:	NP_000197.1
Molecular Weight:	31.53 kDa (predicted); 60.68 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:	> 95 % 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:

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

The common gamma chain (γc) (or CD132), also known as interleukin-2 receptor subunit gamma or IL2RG, is a member of the type I cytokine receptor family expressed on most lymphocyte (white blood cell) populations, and

its gene is found on the X-chromosome of mammals. The common gamma chain (γc) (or IL2RG), is a cytokine receptor subunit that is common to the receptor complexes for at least six different interleukin receptors: IL-2, IL-4, IL-7, IL-9, IL-15, and the interleukin-21 receptor. It is a component of multiple cytokine receptors that are essential for lymphocyte development and function. X-linked severe combined immunodeficiency (X-SCID) is a rare and potentially fatal disease caused by mutations of IL2RG, the gene encoding IL2RG. IL2RG was demonstrated to be a component of the IL-4 receptor based on chemical cross-linking data, the ability of IL2RG to augment IL-4 binding affinity. The observation that IL-2R gamma is a functional component of the IL-4 receptor, together with the finding that IL-2R gamma associates with the IL-7 receptor, begins to elucidate why a deficiency of this common gamma chain (gamma c) has a profound effect on lymphoid function and development, as seen in X-linked severe combined immunodeficiency.

Reference

Russell SM,et al.(1993) Interleukin-2 receptor gamma chain: a functional component of the interleukin-4 receptor. Science. 262 (5141): 1880-3.

Miyazaki T,et al.(1994) Functional activation of Jak1 and Jak3 by selective association with IL-2 receptor subunits. Science. 266 (5187): 1045-7.

Takeshita T,et al.(1992) Cloning of the gamma chain of the human IL-2 receptor. Science. 257 (5068): 379-82.