

IL-21R Protein, Human, Recombinant (His & Avi), Biotinylated

General Information

Synonyms:	CD360;NILR;interleukin 21 receptor
Protein Construction:	A DNA sequence encoding the Human IL21R (Q9HBE5-1)(Met1-Pro236) 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: Cys 20
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q9HBE5-1
Molecular Weight:	28.27 kDa (predicted); 50.0 kDa (reducing conditions)

QC Testing

Biological Activity:	Immobilized Recombinant Human Interleukin-21 / IL-21 Protein at 2 µg/mL (100 µL/well) can bind Recombinant Human IL21 Receptor Protein (His & AVI Tag), Biotinylated, the EC50 is 30-90 ng/mL.
Purity:	≥ 95 % 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:
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

Interleukin-21 receptor, also known as IL-21 receptor, IL-21R, Novel interleukin receptor, IL21R, and NILR, is a single-pass type I membrane protein that belongs to the type I cytokine receptor family and Type 4 subfamily.

Interleukin-21 (IL-21) belongs to a family of cytokines that bind to a composite receptor consisting of a private receptor (IL-21R) and the common cytokine receptor gamma chain (gamma(C)). The IL-21R is discovered as a novel member of the class-I-cytokine-receptor family and is selectively expressed in lymphoid tissues. IL-21R shows strong sequence homologies to the interleukin-4 receptor alpha chain gene (IL-4RA). The WSXWS motif of IL-21R appears to be necessary for proper protein folding and thereby efficient intracellular transport and cell-surface receptor binding. The box 1 motif of IL-21R is required for JAK interaction and/or activation. The IL-21R is widely distributed on lymphohematopoietic cells and IL21 impacts some cell types, including CD8+ memory T cells, NK cells, and subsets of CD4 memory T cells. Increased IL21 production is characteristic of certain autoimmune diseases and is likely to contribute to autoantibody production as well as pathological features of autoimmune disease. The critical role of IL21 in promoting humoral immune responses makes it an important focus of potential therapeutic interventions in conditions characterized by the overproduction of pathogenic autoantibodies.

Reference

Asao H, et al. (2001) Cutting edge: the common gamma-chain is an indispensable subunit of the IL-21 receptor complex. *J Immunol.* 167(1): 1-5.

Wu Z, et al. (2005) Interleukin-21 receptor gene induction in human T cells is mediated by T-cell receptor-induced Sp1 activity. *Mol Cell Biol.* 25(22): 9741-52.

De Toter D, et al. (2006) Interleukin-21 receptor (IL-21R) is up-regulated by CD40 triggering and mediates proapoptotic signals in chronic lymphocytic leukemia B cells. *Blood.* 107(9): 3708-15.

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