Datasheet

Cat. No. PH1003

Recombinant Human IL-21, Tag Free

General Information

Synonym	CVID11; IL-21; Za11
Accession #	Q9HBE4-1
Molecular Characterization	Gln30-Ser162
M.Wt	15.6 kDa
Source	293T cells
Bio Activity	Determined by the dose-dependent stimulation of murine CTLL-2 cells: ED50: < 0.1 ng/mL Specific activity: > $1x10^7$units/mg.

Components and Storage

Formulation	The protein is dissolved in PBS buffer.
Storage	This product is stable after storage at: • 4°C for 1 week; • -20°C for 3 months. • **Please avoid repeated freeze-thaw cycles.**

Quality Control

Purity	≥ 95%, by SDS-PAGE and HPLC.
Endotoxin Level	< 0.1 EU/μg

For detail QC information, please see the CoA.

Background

Interleukin-21(IL-21) has been shown to be produced by natural killer T (NKT) cells [1], IL-21 has been documented to regulate the differentiation and function of several CD4 T cell subsets including Th1 cells [2], Th2 cells [3], Th17 cells [4], regulatory T (Treg) cells [5], type 1 regulatory T (Tr1) cells [6], and Tfh cells [7]. Moreover, IL-21 also plays roles in the differentiation of Th9 cells and follicular regulatory T (Tfr) cells [8], as well as the production of IL-22 by CD4 T cells [9]. The functional significance of IL-21 in regulating CD8 T cell responses is

highlighted by its essential role in sustaining anti-viral CD8 T cells during chronic LCMV infections [10]. Additionally, IL-21 cooperates with IL-10 to promote the maturation of memory CD8 T cells via the transcription factor STAT3 [11].

Reference

1. Coquet JM, et al. IL-21 is produced by NKT cells and modulates NKT cell activation and cytokine production. J Immunol. 2007;178:2827–2834.
2. Wurster AL, et al. Interleukin 21 is a T helper (Th) cell 2 cytokine that specifically inhibits the differentiation of naive Th cells into interferon gamma-producing Th1 cells. J Exp Med. 2002;196:969–977.
3. Pesce J, et al. The IL-21 receptor augments Th2 effector function and alternative macrophage activation. J Clin Invest. 2006;116:2044–2055.
4. Nurieva R, et al. Essential autocrine regulation by IL-21 in the generation of inflammatory T cells. Nature. 2007;448:480–483.
5. Attridge K, et al. IL-21 inhibits T cell IL-2 production and impairs Treg homeostasis. Blood. 2012;119:4656–4664.
6. Spolski R, et al. IL-21 mediates suppressive effects via its induction of IL-10. J Immunol. 2009;182:2859–2867.
7. Vogelzang A, et al. A fundamental role for interleukin-21 in the generation of T follicular helper cells. Immunity. 2008;29:127–137.
8. Ding Y, et al. Interleukin-21 promotes germinal center reaction by skewing the follicular regulatory T cell to follicular helper T cell balance in autoimmune BXD2 mice. Arthritis & rheumatology. 2014;66:2601–2612.
9. Basu R, et al. Th22 cells are an important source of IL-22 for host protection against enteropathogenic bacteria. Immunity. 2012;37:1061–1075.
10. Yi JS, et al. A vital role for interleukin-21 in the control of a chronic viral infection. Science. 2009;324:1572–1576.
11. Cui W, et al. An interleukin-21-interleukin-10-STAT3 pathway is critical for functional maturation of memory CD8+ T cells. Immunity. 2011;35:792–805.

APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com