

Recombinant Mouse IL-21, Tag Free

Information

Accession #	Q9ES17
Alternate Names	CVID11; IL21; IL-21; IL-21Za1 interleukin-21; interleukin 21; interleukin-21 isoform; Za11
Source	Human embryonic kidney cell, HEK293-derived mouse IL-21 protein
Protein sequence	Pro25-Ser146
M.Wt	15.0 kDa
Appearance	Solution protein
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 3 years from date of receipt, -20 to -70°C as supplied.
Concentration	0.2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	The EC ₅₀ for this effect is 0.2-2.3 ng/mL. Measured by its ability to enhance IFN- γ secretion in NK-92 human natural killer lymphoma cells.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 μ g of the protein by the LAL method.

Description

Interleukin-21 (IL-21) is an approximately 14 kDa four-helix-bundle cytokine in the family of cytokines that utilize the common gamma chain as a receptor subunit. gamma c is also a subunit of the receptors for IL-2, IL-4, IL-7, IL-9, and IL-15 [1]. IL-21 is produced by activated T follicular helper cells (Tfh), Th17 cells, and NKT cells [2-6]. It exerts its biological effects through a heterodimeric receptor complex of gamma c and the IL-21-specific IL-21 R [2, 7]. Tfh-derived IL-21 plays an important role in the development of humoral immunity through its autocrine effects on the Tfh cell and paracrine effects on immunoglobulin affinity maturation, plasma cell differentiation, and B cell memory responses [4, 8, 9]. It is also required for the migration of dendritic cells to draining lymph nodes [10]. IL-21 regulates several aspects of T cell function. It co-stimulates the activation, proliferation, and survival

of CD8+ T cells and NKT cells and promotes Th17 cell polarization [3, 5, 6, 11, 12]. It blocks the generation of regulatory T cells and their suppressive effects on CD4+ T cells [13, 14]. IL-21 R engagement enhances the cytolytic activity and IFN-gamma production of activated NK cells but limits the expansion of resting NK cells [15]. IL-21 suppresses cutaneous hypersensitivity reactions by limiting allergen-specific IgE production and mast cell degranulation [16]. Dysregulation of the IL-21/IL-21 R system contributes to the development of multiple immunological disorders [1, 17].

Reference

- [1]. Leonard, W.J. et al. (2008) J. Leukoc. Biol. 84:348.
- [2]. Parrish-Novak, et al. (2000) Nature 408:57.
- [3]. Coquet, J.M. et al. (2007) J. Immunol. 178:2827.
- [4]. Vogelzang, A. et al. (2008) Immunity 29:127.
- [5]. Korn, T. et al. (2007) Nature 448:484.
- [6]. Nurieva, R. et al. (2007) Nature 448:480.
- [7]. Asao, H. et al. (2001) J. Immunol. 167:1.
- [8]. Zotos, D. et al. (2010) J. Exp. Med. 207:365.
- [9]. Rankin, A.L. et al. (2011) J. Immunol. 186:667.
- [10]. Jin, H. et al. (2009) J. Clin. Invest. 119:47.
- [11]. Frohlich, A. et al. (2009) Science 324:1576.
- [12]. Yi, J.S., et al. (2009) Science 324:1572.
- [13]. Peluso, I. et al. (2007) J. Immunol. 178:732.
- [14]. Bucher, C. et al. (2009) Blood 114:5375.
- [15]. Kasaian, M.T. et al. (2002) Immunity 16:559.
- [16]. Tamagawa-Mineoka, R. et al. (2011) J. Invest. Dermatol. 131:1513.
- [17]. Ma, J. et al. (2011) Cytokine 56:133.

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