Epoto Biotech

南京艾璞拓生物科技有限公司

Recombinant Human IL21, Tag Free

Catalog Number: HF-1021

General Information

Synonyms	Human IL21; IL21; IL-21; interleukin 21; interleukin-21 isoform; Za11
Accession #	Q9HBE4.3
Source	Human embryonic kidney cell, HEK293-derived human IL-21 protein
	Gln32-Ser162
Predicted Moleucular weight	15.5 kDa

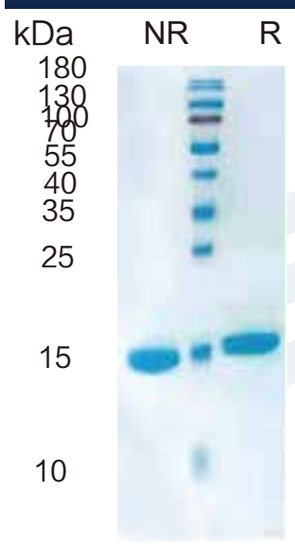
Components and Storage

Formulation	Solution protein.
	Dissolved in sterile PBS buffer.
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles.
	It is recommended that the protein be aliquoted for optimal storage.
	12 months from date of receipt, -20 to -70 °C as supplied.
Shipping	Shipping with dry ice.

Quality

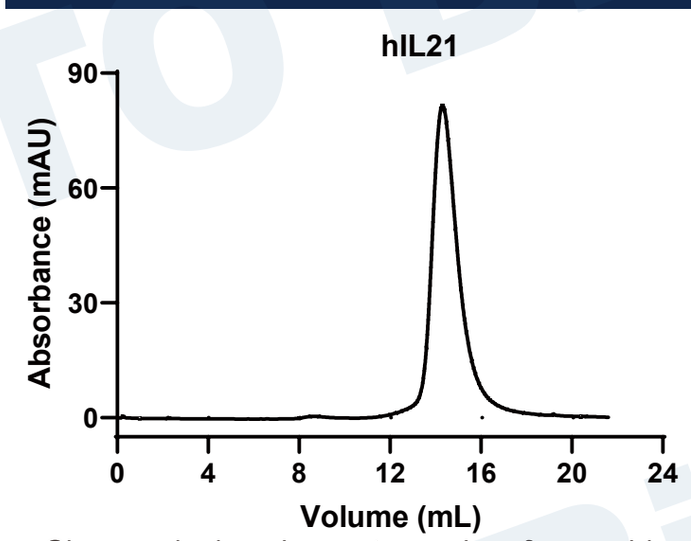
Purity	> 95%, determined by SDS-PAGE.
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method.
Activity	Measured by its ability to enhance IFN-gamma secretion in NK-92 human natural killer lymphoma cells.
	The EC50 for this effect is ⩽2-5 ng/mL.

SDS-PAGE



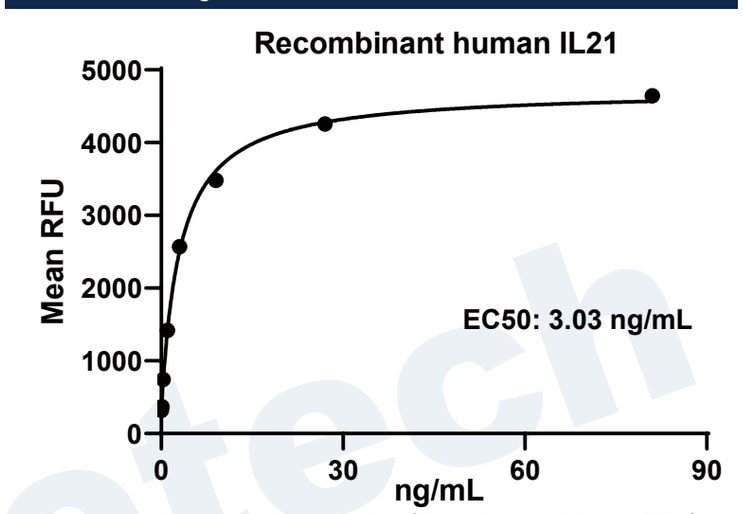
4 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human IL21 protein (280 nm absorbance)

Bioactivity



Recombinant human IL21 (Catalog # HF-1021) enhances IFN-gamma secretion in NK-92 human natural killer lymphoma cells.

Background

Interleukin-21 (IL-21) is a potent cytokine regulating many cell types of the immune system. IL-21 is produced by activated T follicular helper cells (Tfh), Th17 cells, and NKT cells (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). IL-21 protein 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, 10, 11). IL-21 blocks the generation of regulatory T cells and their suppressive effects on CD4+ T cells (12, 13). In addition to its role in T cell biology, IL-21 also plays a critical role in B cell activation, proliferation, differentiation, and apoptosis (2). IL-21 protein exerts its biological effects through a heterodimeric receptor complex of gamma c and the IL-21-specific IL-21 R (2, 7). IL-21 is an approximately 14 kDa four-helix-bundle member of the family of cytokines that utilize the common gamma chain (gamma c) 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 R engagement enhances the cytolytic activity and IFN-gamma production of activated NK cells but limits the expansion of resting NK cells (14). Dysregulation of the IL-21/IL-21 R system contributes to the development of multiple immunological disorders (1, 15). The 133 amino acid (aa) mature human IL-21 protein shares 63% and 61% aa sequence identity with mouse and rat IL-21 protein, respectively. Alternative splicing generates an additional isoform with a substitution of the C-terminal 16 amino acids (16, 17).

Reference

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