

### General Information

Synonyms	CVID11; IL21; IL-21; IL-21Za11interleukin-21; interleukin 21; interleukin-21 isoform; Za11
Accession #	Q9ES17
Source	Human embryonic kidney cell, HEK293-derived mouse IL-21 protein
	Pro25-Ser146
Predicted Molecular weight	15.0 kDa

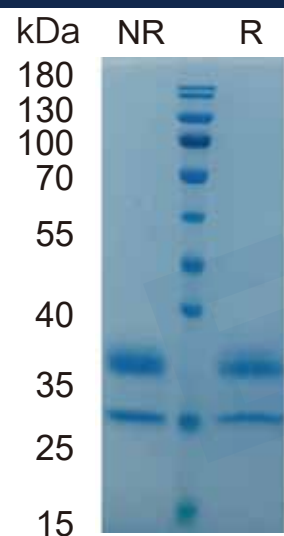
### Components and Storage

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

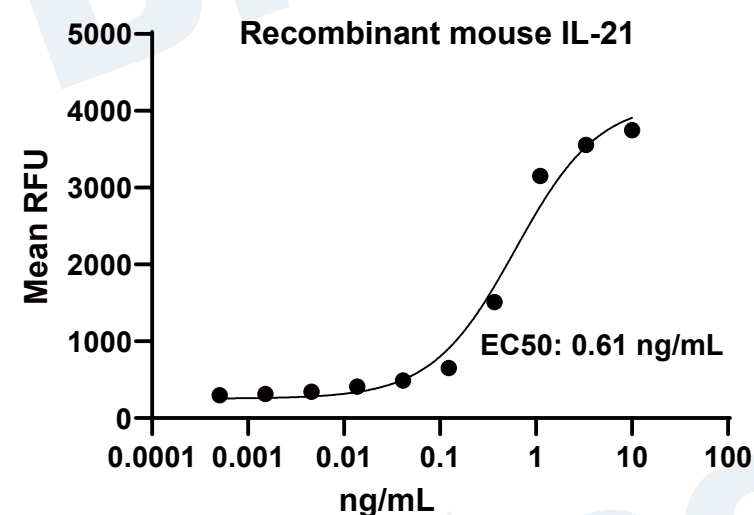
Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured by its ability to enhance IFN-gamma secretion in NK-92 human natural killer lymphoma cells. The EC50 for this effect is 0.2-2.3 ng/mL.

### 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.

### Bioactivity



Recombinant mouse IL-21 (Catalog # MF-1021) enhances IFN-gamma secretion in NK-92 human natural killer lymphoma cells.

### Background

**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

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