

## Product Information

### Interleukin-21 Receptor/Fc Chimera mouse, recombinant expressed in mouse NSO cells

Catalog Number **I4157**  
Storage Temperature  $-20\text{ }^{\circ}\text{C}$

#### Product Description

Recombinant, mouse Interleukin-21 Receptor/Fc Chimera<sup>1,2</sup> is produced from a DNA sequence encoding the extracellular domain, amino acids 1-236, of mouse interleukin-21 receptor (IL-21 R) fused to the Fc region of human IgG1 via a polypeptide linker. The chimeric protein is expressed in mouse myeloma NSO cells. Recombinant mature mouse IL-21 R/Fc is a disulfide-linked homodimeric protein. Based on N-terminal sequencing, the recombinant mouse IL-21 R/Fc protein has Cys<sup>20</sup> at the N-terminus. The reduced monomer has a calculated molecular mass of 51.5 kDa. As a result of glycosylation, the recombinant protein migrates as a 70–80 kDa protein in SDS-PAGE under reducing conditions. At the amino acid level, human and mouse IL-21 R are ~62% identical.

Interleukin-21 (IL-21) is a novel cytokine that is most related to IL-2, IL-4, and IL-15. The receptor for IL-21 (IL-21 R), also termed NILR for novel interleukin receptor,<sup>1,2</sup> is a type I cytokine receptor with four conserved cysteine residues and an extracellular WSXWS motif. It is most closely related to IL-2 R $\beta$  and IL-4 R $\alpha$ . Mouse IL-21 R is a 529 amino acid residue protein with a signal peptide (19 amino acids), an extracellular domain (217 amino acids), a trans-membrane domain (18 amino acids), and a cytoplasmic domain (275 amino acids).

IL-21 R forms a complex with IL-2 R $\gamma$  ( $\gamma_c$ ) and mediates IL-21 signaling.<sup>3,4</sup> Together, IL-21 and its receptor (IL-21 R) appear to have important roles in the regulation of the immune system. This complex regulates the proliferation and maturation of NK (natural killer), B, and T cell populations. IL-21 and its receptor activate the JAK-STAT signaling pathway. IL-21 R is expressed in lymphoid tissues, peripheral B cells, and cell lines of T, B, and NK (natural killer) lineage.

The product is lyophilized from a 0.2  $\mu\text{m}$  filtered solution in phosphate buffered saline (PBS).

Recombinant, mouse Interleukin-21 Receptor/Fc Chimera is measured by its ability to inhibit mouse IL-21-dependent proliferation of human N1186 T cells.<sup>1</sup>

Purity: >95% (SDS-PAGE, visualized by silver stain)

Endotoxin level: <0.1 ng/ $\mu\text{g}$  cytokine  
[LAL (*Limulus* ameobocyte lysate) method]

#### Preparation Instructions

Reconstitute the contents of the vial using 0.2  $\mu\text{m}$  filtered phosphate buffered saline containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 10  $\mu\text{g}/\text{ml}$ .

#### Storage/Stability

Store the product at  $-20\text{ }^{\circ}\text{C}$ .

Upon reconstitution, the product may be stored at 2–8  $^{\circ}\text{C}$  for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a “frost-free” freezer.

#### References

1. Parrish-Novak, J., et al., *Nature*, **408**, 57-63 (2000).
2. Ozaki, K., et al., *Proc. Natl. Acad. Sci. USA*, **97**, 11439-11444 (2000).
3. Asao, H., et al., *J. Immunol.*, **167**, 1-5 (2001).
4. Vosshenrich, C.A., et al., *Curr. Biol.*, **11**, R175-R177 (2001).

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