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ProductInformation

INTERLEUKIN-2 SOLUBLE RECEPTOR b (IL-2 sRb)
Human, Recombinant
Expressed in *Sf* 21 insect cells

Product Number **I 0904**

Product Description

Interleukin-2 soluble Receptor β (IL-2 sRβ) is produced from a DNA sequence encoding the amino acid residues 1 to 239 of the human IL-2 receptor β chain precursor.[1] The mature protein, 213 amino acid residues and a predicted mass of approximately 25 kDa, is generated after removal of a 26 amino acid residue signal peptide. As a result of glycosylation, the recombinant protein migrates as a doublet with apparent molecular masses of approximately 29 and 31 kDa in SDS-PAGE.

Interleukin 2 is a protein that has many immunologic functions including the ability to promote the proliferation and maturation of activated T cells. The biological activities of IL-2 are mediated through the binding of IL-2 to a multi-component cellular receptor, IL-2 receptor. The IL-2 receptor mediates T cell growth and promotes cell survival, effector function, and apoptosis. Though sometimes contradictory, these effects underscore the fact that a diversity of intracellular signaling pathways is potentially activated by IL-2R.

At least 3 subunits comprise the IL-2 receptor: IL-2 Rα, IL-2 Rβ, and IL-2 Rγ chains. IL-2 receptors exist in two affinity states on cell surfaces, the high affinity complex consisting of α, β, and γ chain heterotrimers, and the intermediate affinity complex having β and γ chain heterodimers. Individual β chains and α chains show low affinity for IL-2 binding and the γ chain by itself does not bind IL-2. Recombinant human IL-2 Rβ binds IL-2 with low affinity and is not an effective IL-2 antagonist. The β chain and the γ chain form a complex that binds IL-2 with high affinity, slows dissociation, and mediates signal transduction.[2] In addition to their role in IL-2 mediated signal transduction, both the β chain and γ chain are necessary for IL-15 mediated signaling.

Cells known to express the β chain include: activated $CD56^+$ (NK) cells plus $CD8^+$ and $CD4^+$ T cells,[2, 3] resting NK cells and, perhaps, $CD8^+$ T cells,[2, 3] activated and resting B cells,[4] mature thymocyte,[5] embryonic fibroblasts,[6] resting monocytes,[7] and neutrophils.[8] A soluble IL-2 Rβ has been identified in cell culture supernatants of a human lymphoid cell line, YT.

Reagent

Recombinant Human IL-2 Rβ is supplied as approximately 5 µg of protein lyophilized from a 0.2 µm filtered solution in phosphate buffered saline (PBS) containing 0.25 mg of bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 10 µg/ml.

Storage/Stability

Store at –20 °C. Upon reconstitution, store at 2 °C to 8 °C for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

Recombinant Human IL-2 sRβ is measured by its ability to inhibit the IL-15-dependent proliferation of a human megakaryocytic leukemic cell line, M07e.

Approximately 1.0 to 3.0 µg/ml of IL-2 sRβ will inhibit 50 % of the biological response due to 4.0 ng/ml of recombinant human IL-15.

Purity: >97 % as determined by SDS-PAGE, visualized by silver stain.

Endotoxin level is < 0.1 ng/μg protein as determined by the LAL (Limulus amebocyte lysate) method.

References

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