# Human IL-2 Rβ Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF-224-NA

## DESCRIPTION

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| **Species Reactivity** | Human |
| **Specificity** | Detects human IL-2 Rβ in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant human (rh) IL-2Rα, recombinant mouse (rm) IL-2Rβ, rhIL-2 Rγ, and rhIL-15 R is observed. Is also able to block the cell surface of human IL-2 Rβ mediated bioactivities induced by IL-2. For optimal neutralization of IL-2 biological activity on cells expressing the high affinity IL-2 receptors, the use of anti-IL-2 Rα in conjunction with anti-IL-2 Rβ antibodies is recommended. |
| **Source** | Polyclonal Goat IgG |
| **Purification** | Antigen Affinity-purified |
| **Immunogen** | *S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant human IL-2 Rβ<br>Ala27-Asp239<br>Accession # NP_000869 |
| **Endotoxin Level** | <0.10 EU per 1 µg of the antibody by the LAL method. |
| **Formulation** | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. |

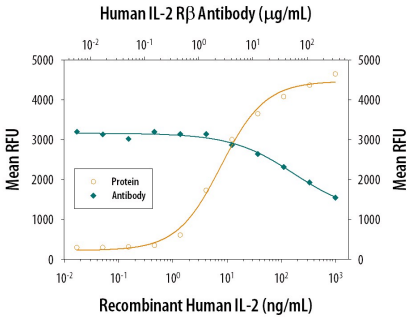
## APPLICATIONS

**Please Note:** *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

| | Recommended Concentration | Sample |
|---|---|---|
| **Western Blot** | 0.1 µg/mL | Recombinant Human IL-2 Rβ (Catalog # 224-2B) |
| **Neutralization** | Measured by its ability to neutralize IL-2-induced proliferation in the MO7e human megakaryocytic leukemic cell line. Avanzi, G. *et al.* (1988) Br. J. Haematol. **69**:359. The Neutralization Dose ($ND_{50}$) is typically 10-30 µg/mL in the presence of 20 ng/mL Recombinant Human IL-2. | |

## DATA

**Neutralization**




**Cell Proliferation Induced by IL-2 and Neutralization by Human IL-2 Rβ Antibody.** Recombinant Human IL-2 (Catalog # 202-IL) stimulates proliferation in the MO7e human megakaryocytic leukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-2 (20 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-2 Rβ Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-224-NA). The $ND_{50}$ is typically 10-30 µg/mL.

## PREPARATION AND STORAGE

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| **Reconstitution** | Reconstitute at 0.2 mg/mL in sterile PBS. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

## BACKGROUND

Functional IL-2 receptors can exist in two affinity states on cell surfaces, the high affinity complex consisting of heterotrimers of the α, β, and γ chains, and the intermediate affinity complex comprising heterodimers of the β and γ chains. Individual β chains and α chains exhibit low affinity IL-2 binding and the γ chain alone does not bind IL-2. In addition to their involvement in IL-2 mediated signal transduction, both the β chain and γ chain have been shown to be required for IL-15 mediated signaling.

IL-2 Rβ is a member of the cytokine receptor superfamily. Human IL-2 Rβ cDNA encodes a 551 amino acid residue precursor Type I membrane protein with a 26 residue signal peptide, a 214 residue extracellular region, a 25 residue transmembrane region and a 286 residue cytoplasmic domain. A soluble IL-2 Rβ (IL-2 sRβ) has been identified in the culture supernatants of a human lymphoid cell line, YT, that displays IL-2 Rβ. At present, the function of IL-2 sRβ is unclear. Recombinant human IL-2 sRβ binds IL-2 with low affinity and is not an effective IL-2 antagonist on cells displaying the high or intermediate affinity IL-2 signaling receptors. Nevertheless, IL-2 sRβ binds IL-15 with sufficient affinity to neutralize IL-15 biological activities.