# Recombinant Human IL-4 Rα

Catalog Number: 230-4R/CF

## DESCRIPTION

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| **Source** | *Spodoptera frugiperda*, *Sf* 21 (baculovirus)-derived<br>Gly24-His232<br>Accession # P24394 |
| **N-terminal Sequence Analysis** | Gly24 |
| **Predicted Molecular Mass** | 24 kDa |

## SPECIFICATIONS

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| **SDS-PAGE** | 30-35 kDa, reducing conditions |
| **Activity** | Measured by its ability to inhibit IL-4-dependent proliferation of TF-1 human erythroleukemic cells. Kitamura, T. *et al.* (1989) J. Cell Physiol. **140**:323.<br>Approximately 5-25 ng/mL of IL-4 Rα will inhibit 50% of the biological response due to 0.2 ng/mL of recombinant human IL-4. |
| **Endotoxin Level** | <0.10 EU per 1 µg of the protein by the LAL method. |
| **Purity** | >97%, by SDS-PAGE under reducing conditions and visualized by silver stain. |
| **Formulation** | Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details. |

## PREPARATION AND STORAGE

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| **Reconstitution** | Reconstitute at 100 µg/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>● 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

## BACKGROUND

Interleukin 4 Receptor alpha (IL-4 Rα), also known as CD124 and BSF receptor, is a widely expressed 140 kDa transmembrane glycoprotein in the class I cytokine receptor family. IL-4 Rα plays an important role in Th2-biased immune responses, alternative macrophage activation, mucosal immunity, allergic inflammation, tumor progression, and atherogenesis (1 - 5). Mature human IL-4 Rα consists of a 207 amino acid (aa) extracellular domain (ECD) that contains a cytokine binding region and one fibronectin type-III domain, a 24 aa transmembrane segment, and a 569 aa cytoplasmic domain that contains one Box 1 motif and one ITIM motif (6, 7). Within the ECD, human IL-4 Ra shares 51% aa sequence identity with mouse and rat IL-4 Rα. Soluble forms of IL-4 Rα, generated by alternate splicing or proteolysis, retain ligand binding properties and inhibit IL-4 bioactivity (8 - 11). IL-4 Rα is a component of two distinct receptor complexes and shows species selectivity between human and mouse (6). It can associate with the common gamma chain (γc) to form the IL-4 responsive type I receptor in which γc increases the affinity for IL-4 and enables signaling (12, 13). It can alternatively associate with IL-13 Rα1 to form the type II receptor which is responsive to both IL-4 and IL-13 (14, 15). The use of shared receptor components contributes to the overlapping biological effects of IL-4 and IL-13 as well as other cytokines that utilize γc (i.e. IL-2, IL-7, IL-9, IL-15, and IL-21) (16, 17).

**References:**


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