

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human IL-2 R beta protein		
	Human IL-2 R β (Ala27-Asp239) Accession # P14784.1	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence	Ala27		
Analysis			
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	51 kDa		

SPECIFICATIONS

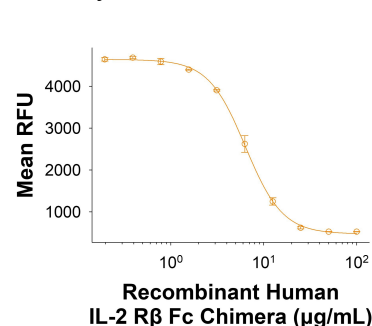
SDS-PAGE	62 - 68 kDa, under reducing conditions.
Activity	Measured by its ability to inhibit Recombinant Human IL-15 (Catalog # 247-ILB) dependent proliferation of MO7e human megakaryocytic leukemic cells. The ED ₅₀ for this effect is 1.75-14.0 μ g/mL.
Endotoxin Level	<0.10 EU per 1 μ g of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 μ g/mL in 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. 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 3 months, -20 to -70 °C under sterile conditions after reconstitution.

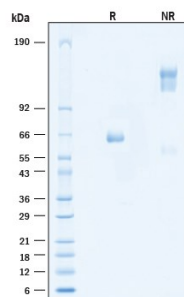
DATA

Bioactivity



Recombinant Human IL-2 R β Fc Chimera Protein Bioactivity. Recombinant Human IL-2 R β Fc Chimera (Catalog # 10919-2B) inhibits Recombinant Human IL-15 (Catalog # 247-ILB) dependent proliferation of MO7e human megakaryocytic leukemic cells. The ED₅₀ for this effect is 1.75-14.0 μ g/mL.

SDS-PAGE



Recombinant Human IL-2 R β Fc Chimera Protein SDS-PAGE. 2 μ g/lane of Recombinant Human IL-2 R β Fc Chimera Protein (Catalog # 10919-2B) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 62-68 kDa and 120-140 kDa, respectively.

BACKGROUND

Interleukin-2 receptor subunit beta (IL-2 RB), also known as high affinity IL-2 receptor subunit beta, interleukin-15 receptor subunit beta, p70-75 (p75), and CD122, is a member of the cytokine receptor superfamily that plays a role in T cell-mediated immune responses (1, 3). Human IL-2 RB consists of an extracellular domain (ECD) containing a fibronectin type III domain and a WSXWS motif, a type I transmembrane domain, and a cytoplasmic tail. Within the ECD, mature human IL-2 RB shares 58% and 61% amino acid sequence identity with mouse and rat IL-2 RB, respectively. A soluble IL-2 RB (sIL-2 RB) has been identified in the culture supernatants of a human lymphoid cell line, YT, that displays IL-2 RB (5). Functional IL-2 receptors can exist in two affinity states on cell surfaces: the high affinity complex consisting of heterotrimers of the alpha, beta, and gamma chains and the intermediate affinity complex comprising heterodimers of the beta and gamma chains (2, 3). Individual beta chains and alpha chains exhibit low affinity IL-2 binding and the gamma chain alone does not bind IL-2. In addition to their involvement in IL-2 mediated signal transduction, both the beta chain and gamma chain have been shown to be required for IL-15 mediated signaling (4). At present, the function of IL-2 sR beta is unclear. Recombinant human sIL-2RB 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, sIL-2 RB binds IL-15 with sufficient affinity to neutralize IL-15 biological activities.

References:

1. Jia, Z. *et al.* (2019) *Int. Immunopharmacol.* **74**:105716.
2. Zhou, X. *et al.* (2019) *Fish & Shellfish Immunol.* **93**:641.
3. Zhang, Z. *et al.* (2019) *J. Exp. Med.* **216**:1311.
4. Fernandez, I. *et al.* (2019) *J. Exp. Med.* **216**:1255.
5. Honda, M. *et al.* (1990) *J. Immunol.* **145**:4131.