

IL-2R beta/CD122 Protein, Human (HEK293, His-Avi)

Cat. No.:	HY-P77594
Synonyms:	CD122; IL-15 R beta; IL-2 R beta; IL-2R subunit beta; IL2RB; P70-75; p75; RP5-1170K4.6
Species:	Human
Source:	HEK293
Accession:	P14784 (A27-D239)
Gene ID:	3560
Molecular Weight:	40-50 kDa

PROPERTIES

Biological Activity	Human IL-2 R beta, His Tag captured on CM5 Chip via anti-his antibody can bind Human IL-2, No Tag with an affinity constant of 0.12-0.25 μ M as determined in SPR assay (Biacore T200).
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μ m filtered solution of PBS, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer. It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>IL-2R beta (CD122) is a type I cytokine receptor, and belongs to Type 4 subfamily. IL-2R beta is also a key component of the IL-15 receptor. IL-2R beta is broadly expressed in spleen, blood, and lymph node, such as B and T lymphocytes^{[1][3]}. The sequence of amino acids in IL-2R beta differs in different species. Human IL-2R beta shares <60% aa sequence identity with mouse and rats.</p> <p>IL-2R beta cytoplasmic domain heterodimerizes with IL-2 and leads to the activation of signaling pathways: phosphoinositol 3-kinase (PI3-K)/AKT, Ras-MAP kinase, and the JAK-STAT pathways^[4]. IL-2R beta binds IL-2 with intermediate affinity. IL-2R beta mediates IL-2 internalization and signal transduction, such as cell proliferation or differentiation^[5]. IL-2R beta interacts with IL-2 and increases the proportion of CD4+ T lymphocytes^[1]. IL-2R stimulates T cell proliferation and activating lymphokine-activated killer cells^[2].</p> <p>IL-2R beta mediates T cell immune responses, and also mediates endocytosis, as well as transducing the mitogenic signals of IL-2.</p>
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REFERENCES

- [1]. Xiujuan Zhou, et al. Interleukin-2 (IL-2) Interacts With IL-2 Receptor Beta (IL-2R β): Its Potential to Enhance the Proliferation of CD4+ T Lymphocytes in Flounder (*Paralichthys olivaceus*). *Front Immunol.* 2020 Sep 9;11:531785.
- [2]. R N Bamfordm, et al. The interleukin (IL) 2 receptor beta chain is shared by IL-2 and a cytokine, provisionally designated IL-T, that stimulates T-cell proliferation and the induction of lymphokine-activated killer cells. *Proc Natl Acad Sci U S A.*1994 May
- [3]. Xiujuan Zhou, et al. Immunological characteristics of Interleukin-2 receptor subunit beta (IL-2R β) in flounder (*Paralichthys olivaceus*): Implication for IL-2R function. *Fish Shellfish Immunol.* 2019 Oct;93:641-651.
- [4]. Akira Sakai, et al. The role of tumor-associated macrophages on serum soluble IL-2R levels in B-cell lymphomas. *J Clin Exp Hematop.* 2014;54(1):49-57.
- [5]. M Allouche, et al. Interleukin 2 receptors. *Leuk Res.* 1990;14(8):699-703.
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