

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

Cat. No.:	HY-P72386
Synonyms:	IL-2R beta; Interleukin-2 receptor subunit beta; IL-2 receptor subunit beta; igh affinity IL-2 receptor subunit beta; CD122
Species:	Human
Source:	HEK293
Accession:	P14784 (A27-D239)
Gene ID:	3560
Molecular Weight:	35-45 kDa

PROPERTIES

AA Sequence	<div> <div> A V N G T S Q F T C R R R W N Q T C E L R V L C R E G V R W R C N I S W E I S Q K Q K Q E W I C L E L A F R T K P A A L </div> <div> F Y N S R A N I S C L P V S Q A S W A C R V M A I Q D F K P A S H Y F E R H L E T L T P D T Q Y E F G K D </div> <div> V W S Q D G A L Q D N L I L G A P D S Q F E N L R L M A P I F E A R T L S P G H Q V R V K P L Q G E </div> <div> T S C Q V H A W P D K L T T V D I V T L S L Q V V H V E T H T W E E A P L L T L F T T W S P W S Q P </div> </div>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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 (with carrier protein). 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</p>
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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].

IL-2R beta mediates T cell immune responses, and also mediates endocytosis, as well as transducing the mitogenic signals of IL-2.

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;11:531788.
- [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.

Caution: Product has not been fully validated for medical applications. For research use only.

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