

IL-2R beta/CD122 Protein, Canine (217a.a, HEK293, His)

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| Cat. No.: | HY-P78635 |
| Synonyms: | IL2RB; RP5-1170K4.6; CD122; P70-75 |
| Species: | Canine |
| Source: | HEK293 |
| Accession: | NP_001273780.1 (N30-P246) |
| Gene ID: | 403439 |
| Molecular Weight: | 33-40 kDa |

PROPERTIES

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| AA Sequence | <p>N A D T S K L T C F Y N S K A N I S C I W S W D G D L Q A T S C K I H A Q P D R</p> <p>R P W N K S C E L L P M R P A F W A C Y L I L G S P D A Q S L T S A D V V G M S</p> <p>V M C H E G E R W R I L M T Q D F K P F E N L R L M A P N G L Q V A D V G T H K</p> <p>C N I T W K V P Q S S H Y I K R Y L E F E A R K R S P G H S W E E A S L M A L R</p> <p>Q N Q Q W I S L E T L T P D T L Y E F Q V R V R A Q R G S H K T W S P W S Q P L</p> <p>A F R T R P A A R G K Q S L P F P</p> |
| Biological Activity | Measured by its ability to inhibit the IL-15-dependent proliferation of MO7e human megakaryocytic leukemic cells. The ED ₅₀ for this effect is 0.4095 µg/mL in the presence of 4 ng/mL of recombinant human IL-15, corresponding to a specific activity is 2.44×10 ³ units/mg. |
| Appearance | Lyophilized powder |
| Formulation | Lyophilized from a 0.2 µm filtered solution of 20 mM Tris-HCl, 0.5 M NaCl, 6% Trehalose, pH 8.0 or 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

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| Background | 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]} . |
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The sequence of amino acids in IL-2R beta differs in different species.

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].

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;11:531792.
- [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.* 1998 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;93:641-655.
- [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):49-61.
- [5]. M Allouche, et al. Interleukin 2 receptors. *Leuk Res.* 1990;14(8):699-707.
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