

IL-2R alpha/CD25 Protein, Human (HEK293, N-His)

Cat. No.:	HY-P7215
Synonyms:	rHuIL-2R α , His; TAC-antigen; CD25
Species:	Human
Source:	HEK293
Accession:	P01589 (E22-C213)
Gene ID:	3559
Molecular Weight:	Approximately 42 kDa

PROPERTIES

AA Sequence	<pre> E L C D D D P P E I P H A T F K A M A Y K E G T M L N C E C K R G F R R I K S G S L Y M L C T G N S S H S S W D N Q C Q C T S S A T R N T T K Q V T P Q P E E Q K E R K T T E M Q S P M Q P V D Q A S L P G H C R E P P P W E N E A T E R I Y H F V V G Q M V Y Y Q C V Q G Y R A L H R G P A E S V C K M T H G K T R W T Q P Q L I C T G E M E T S Q F P G E E K P Q A S P E G R P E S E T S C </pre>
Biological Activity	The ED ₅₀ is <1.5 μ g/mL as measured by murine CTLL-2 cells.
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against PBS.
Endotoxin Level	<0.2 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. 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 alpha (CD25) is a type I membrane protein. IL-2R alpha is expressed in peripheral activated T and B cells, triple-negative thymocytes, and bone marrow pre-B cells. In high tumor regulatory T (Treg) cells, IL-2R alpha is highly expressed and is a potential target for Treg deletion. The expression of IL-2R alpha is undetectable on resting T cells^{[1][2][3]}.</p> <p>The sequence of amino acids in IL-2R alpha from different species is very different (less than 85% similarity among human, rat and mouse).</p>
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IL-2R alpha is an essential component of high-affinity IL-2 receptors and has no signal-transducing activity per se. IL-2R alpha functions through enhancing binding of IL-2 to its receptor complex and acts as a positive feedback regulator. IL-2 is a principal growth factor for T lymphocytes and plays an important role in T cell immune response. IL-2R alpha transcription is regulated by three positive regulatory regions (PRRs): PRR1, PRR2 and PRR3. PRR3 is an IL-2 response element^{[1][2]}. IL-2R alpha regulates T cell growth, augments lymphocyte activation and proliferation. IL-2R alpha is involved in preventing type 1 diabetes and cancers^{[1][2][4]}.

REFERENCES

- [1]. H.Asao. Interleukin-2. Reference Module in Biomedical Sciences. 2014. ISBN 9780128012383.
- [2]. Kim HP, et al. The basis for IL-2-induced IL-2 receptor alpha chain gene regulation: importance of two widely separated IL-2 response elements. *Immunity*. 2001 Jul;15(1):159-72.
- [3]. Bell CJ, et al. Sustained in vivo signaling by long-lived IL-2 induces prolonged increases of regulatory T cells. *J Autoimmun*. 2015 Jan;56:66-80.
- [4]. Chistiakov DA, et al. The crucial role of IL-2/IL-2RA-mediated immune regulation in the pathogenesis of type 1 diabetes, an evidence coming from genetic and animal model studies. *Immunol Lett*. 2008 Jun 15;118(1):1-5.
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Caution: Product has not been fully validated for medical applications. For research use only.

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