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1. Description

Products	Human IL-2 IS, research grade. Recombinant human interleukin 2 IS (improved sequence).						
	<table border="1"> <thead> <tr> <th>Content in µg</th><th>Order no.</th></tr> </thead> <tbody> <tr> <td>10</td><td>130-097-742</td></tr> <tr> <td>50</td><td>130-097-743</td></tr> </tbody> </table>	Content in µg	Order no.	10	130-097-742	50	130-097-743
Content in µg	Order no.						
10	130-097-742						
50	130-097-743						
Biological activity	The ED₅₀ is ≤0.3 ng/mL corresponding to an activity of ≥3×10⁶ IU/mg. ▲ Note: The ED₅₀ is determined by proliferation assay using CTLL-2 cells. The proliferation assay was calibrated with the reference standard for human IL-2 (NIBSC code 86/504) provided by the WHO/National Institute for Biological Standards and Control. Biological activity is ≥1.7×10⁷ IU/mg when calibrated with Proleukin*.						
Primary structure	Single, non-glycosylated polypeptide chain (133 amino acid residues) without N-terminal methionine and a Cys to Ser substitution at amino acid position 125.						
Molecular mass	15.4 kDa.						
Source	Produced in <i>E. coli</i> .						
Product format	Lyophilized from a filtered (0.2 µm) buffer solution.						
Stabilizer	Mannitol and trehalose.						
Purity	>95% as determined by SDS-PAGE analysis.						
Endotoxin level	Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.						
Storage	Lyophilized Human IL-2 IS, research grade should be stored at -20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at -20 °C or below. Avoid repeated freeze-thaw cycles.						
Reconstitution	It is recommended to reconstitute lyophilized Human IL-2 IS, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.						

1.1 Background information

IL-2, a potent lymphoid cell growth factor, is a typical four α-helix bundle cytokine. It is produced by activated T cells, especially the CD4⁺ T helper cell population. It plays an important role in both the activation and maintenance of immune responses and in lymphocyte development. IL-2 promotes proliferation and differentiation of T cells, NK cells and B cells and is involved in the elimination of self-reactive T cells. IL-2 signals through a receptor complex consisting of IL-2 receptor α-chain (CD25), β-chain, and common γ-chain. The latter two are also used for IL-15 signaling.

1.2 Applications

Human IL-2 IS can be used for a variety of applications including:

- *In vitro* activation and propagation of T cells, e.g., in combination with the T Cell Activation/Expansion Kit, human.
- *In vitro* stimulation of cytolytic function and expansion of NK cells, e.g., using the NK Cell Activation/Expansion Kit, human.
- Generation of lymphokine-activated killer (LAK) cells or cytokine-induced killer (CIK) cells.

Optimal concentration for a specific application should be determined by a dose-response experiment.

2. References

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