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1. Description

Products	Human IL-15Rα sushi, research grade. Recombinant human interleukin 15 receptor alpha, soluble sushi domain.						
	<table border="1"> <thead> <tr> <th>Content in µg</th><th>Order no.</th></tr> </thead> <tbody> <tr> <td>10</td><td>130-104-919</td></tr> <tr> <td>25</td><td>130-104-920</td></tr> </tbody> </table>	Content in µg	Order no.	10	130-104-919	25	130-104-920
Content in µg	Order no.						
10	130-104-919						
25	130-104-920						
Biological activity	The ED ₅₀ is ≤3.3 ng/mL corresponding to an activity of ≥3×10 ⁵ U/mg. ▲ Note: The ED ₅₀ is determined by inhibiting of human IL-15-induced proliferation of CTLL-2 cells.						
Primary structure	Single non-glycosylated polypeptide chain without N-terminal methionine (85 amino acid residues), comprising the 65 aa sushi domain.						
Molecular mass	9.3 kDa.						
Source	Produced in <i>E. coli</i> .						
Product format	Lyophilized from a filtered (0.2 µm) buffer solution.						
Stabilizer	Mannitol and trehalose.						
Purity	>97% 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-15Rα sushi, 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-15Rα sushi, 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-15Rα is a subunit of the IL-15 receptor together with IL-2Rβ (CD122) and IL-2Rγ (CD132), two subunits shared with IL-2 receptor. A soluble form of IL-15Rα, including the extracellular sushi domain, is naturally released by antigen-presenting cells *in vivo*. Soluble IL-15Rα binds with high affinity IL-15 and acts as IL-15 antagonist through the prevention of IL-15 binding on its α/β/γ receptor. However, on lymphocytes that express only the heterodimeric IL-2Rβ/γ receptor, IL-15Rα presents IL-15 *in trans* to the IL-2Rβ/γ receptor, and enhances the effects of IL-15, increasing lymphocyte proliferation and survival. Recombinant Human IL-15Rα sushi is composed of the extracellular sushi domain of IL-15Rα plus a natural hinge domain, and it is a high affinity agonist of IL-15 in culture, maintaining the natural biological effect of soluble IL-15Rα.

1.2 Applications

Human IL-15Rα sushi can be used for a variety of applications, including:

- *In vitro* activation and expansion of memory and naive CD8⁺ T cells, NK cells, and NKT cells in combination with IL-15
- Study of IL-15/IL-2 receptor signaling
- Investigation of new potential adjuvants for vaccine studies

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

2. References

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3. Bouchaud, G. *et al.* (2008) The exon-3-encoded domain of IL-15Rα contributes to IL-15 high-affinity binding and is crucial for the IL-15 antagonist effect of soluble IL-15Rα. *J. Mol. Biol.* 382 (1): 1–12.
4. Wu, J. (2013) IL-15 agonists: The cancer cure cytokine. *J. Mol. Genet. Med.* 7 (4): 85.

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