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# Human IL-15 Recombinant Protein

10 µg

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3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**For Research Use Only. Not for Use in Diagnostic Procedures.****MW (kDa):**  
12**UniProt ID:**  
#P40933**Entrez-Gene Id:**  
3600

## Background

Interleukin-15 (IL-15) is a pleiotropic cytokine best known for inducing T cell proliferation and NK cell proliferation and activation (1,2). This glycoprotein is a member of the 4  $\alpha$ -helix-bundle family of cytokines and is required for the differentiation of effector CD8<sup>+</sup> and memory phenotype CD8<sup>+</sup> T cells (3,4). The effects of IL-15 are mediated through the heterotrimeric receptor consisting of the IL-15 receptor alpha (IL-15R $\alpha$ ), the  $\beta$ -chain, and the common  $\gamma$ -chain (2). The  $\beta$ -chain and common  $\gamma$ -chain are shared with the IL-2 receptor (3). Binding of IL-15 initiates signaling cascades that involve Jak1, Jak3, Stat3, and Stat5, leading to activation of the PI3K/Akt and Ras/Raf/MAPK signaling pathways (5). The effect that IL-15 has on innate and specific immunity makes it an important target for cancer immunotherapy and viral clearance (3,6).

## Endotoxin

Endotoxin levels are less than or equal to 1 EU / 1 µg hIL-15.

## Purity

A greater than or equal to 95% purity was determined by SDS-PAGE.

## Source / Purification

Recombinant human IL-15 was expressed in *E. coli* and is supplied in a lyophilized form.

## Bioactivity

The bioactivity of recombinant hIL-15 was determined in a CTLL-2 cell proliferation assay. The ED<sub>50</sub> of each lot is less than or equal to 5 ng/ml.

## Background References

1. Ma, A. et al. (2006) *Annu Rev Immunol* 24, 657-79.
2. Perera, P.Y. et al. (2012) *Microbes Infect* 14, 247-61.
3. Steel, J.C. et al. (2012) *Trends Pharmacol Sci* 33, 35-41.
4. Perera, L.P. (2000) *Arch Immunol Ther Exp (Warsz)* 48, 457-64.
5. Budagian, V. et al. (2006) *Cytokine Growth Factor Rev* 17, 259-80.
6. Kandikattu, H.K. et al. (2020) *Cytokine Growth Factor Rev*, 54:24-31.

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