

Human Interleukin-2 (hIL-2)



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MW (kDa): 14	UniProt ID: #P60568	Entrez-Gene Id: 3558
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Background

IL-2 is a T cell stimulatory cytokine best known for inducing T cell proliferation and NK cell proliferation and activation (1,2). IL-2 also promotes peripheral development of Treg cells (4, 5). Conversely, IL-2 is involved in activation induced cell death (AICD) that is observed post T cell expansion by increasing levels of Fas on CD4+ T cells (3). The effects of IL-2 are mediated through a trimeric receptor complex consisting of IL-2R α , IL-2R β and the common gamma chain, γ c (1,2). IL-2 R α binds exclusively to IL-2 with low affinity and increases binding affinity of the whole receptor complex including IL-2R β and γ c subunits. IL-2R β is also used by IL-15 (1,2). The common γ c is used by other cytokines including IL-4, IL-7, IL-9, IL-15, and IL-21 (1,2). Binding of IL-2 initiates signaling cascades involving Jak1, Jak3, Stat5 and the PI3K/Akt pathways (1,2).

Endotoxin

Less than 0.01 ng endotoxin/1 μ g hIL-2.

Purity

>98% as determined by SDS-PAGE of 6 μ g reduced (+) and non-reduced (-) recombinant hIL-2. All lots are greater than 98% pure.

Source / Purification

Recombinant human IL-2 (hIL-2) Ala21-Thr153 (Accession #NM_000586) was produced in *E. coli* at Cell Signaling Technology.

Bioactivity

The bioactivity of recombinant hIL-2 was determined in a CTLL-2 cell proliferation assay. The ED₅₀ of each lot is between 0.1 - 1.0 ng/ml.

Background References

1. Ma, A. et al. (2006) *Annu Rev Immunol* 24, 657-79.
2. Gaffen, S.L. and Liu, K.D. (2004) *Cytokine* 28, 109-23.
3. Jaleco, S. et al. (2003) *J Immunol* 171, 61-8.
4. Fehérvari, Z. et al. (2006) *Trends Immunol* 27, 109-11.
5. Antony, P.A. et al. (2006) *J Immunol* 176, 5255-66.

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