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#5454

Human Interleukin-2 (hIL-2) (mammalian derived)

Cell Signaling TECHNOLOGY®

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

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 (3,4). 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 (5). The effects of IL-2 are mediated through a trimeric receptor complex consisting of IL-2Rα, IL-2Rβ, and the common gamma chain, γc (1,2). IL-2Rα binds exclusively to IL-2 with low affinity and increases binding affinity of the whole receptor complex including IL-2Rβ and γc subunits. IL-2Rβ is also used by IL-15 (1,2). The common γc 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 µg hIL-2.

Purity

>98% as determined by SDS-PAGE of 6 µg 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 # NP_000577) was expressed in human 293 cells at Cell Signaling Technology.

Bioactivity

The bioactivity of recombinant hIL-2 was determined in a CTLL-2 cell proliferation assay. The ED_{50} of each lot is between 30-200 pg/ml.

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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. Fehérvari, Z. et al. (2006) *Trends Immunol* 27, 109-11.
4. Antony, P.A. et al. (2006) *J Immunol* 176, 5255-66.
5. Jaleco, S. et al. (2003) *J Immunol* 171, 61-8.

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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