

#8907 Store at -20C

Human Interleukin-2 (hIL-2)



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

MW (kDa):
14

UniProt ID:
#P60568

Entrez-Gene Id:
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 (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

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).

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.

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

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.
All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.