

# Interleukin-2

100 µl  
 (10 µg)

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New 09/06

This product is for *in vitro* research use only and is not intended for use in humans or animals.

Molecular Wt.	Source	Purity
16 kDa	Human Recombinant Protein	>95%

**Background:** Interleukin-2 (IL-2) is a type of lymphokine which Morgan et al. found in 1976 to be a specific growth factor of T lymphocytes. Interleukin 2 (IL-2) is predominantly produced by T-helper cells (TH1) having the phenotype CD4+, and by subpopulations of thymocytes after antigenic or mitogenic stimulation (1). IL-2 causes proliferation of T-cells, and its function depends on binding to IL-2 receptors (IL-2R  $\alpha$  and IL-2R  $\beta$ ) which mediate downstream signaling including the activation of p70 S6 kinase (2). Thus, the immune response of T cells is controlled through the expression of IL-2 receptors and IL-2 binding. IL-2 receptors are expressed not only by T-cells but also by B-cells, NK cells, monocytes, thymocytes, thymic stroma cells, oligodendrocytes and endothelial cells (3). This explains the various functions of IL-2, such as immunoglobulin production, growth of certain B-cell subpopulations, macrophage-dependent cytotoxicity, growth and differentiation of oligodendrocytes and proliferation of lymphokine activated killer (LAK) cells. Abnormal production of IL-2 may lead to autoimmune diseases, immunodeficiencies and, under certain circumstances, to T-cell leukemia (4). IL-2 also shares many of these functions with other cytokines such as IL-15 (1).

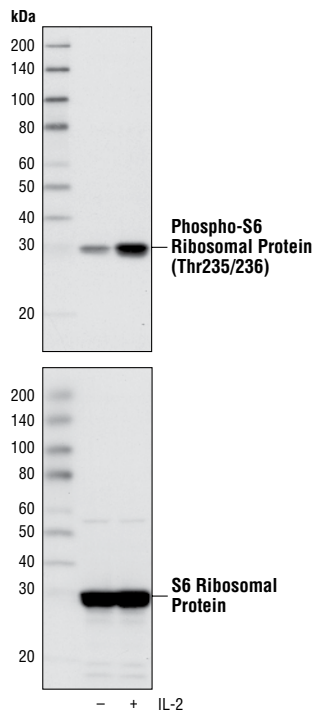
**Description:** The human IL-2 coding cDNA was subcloned into an expression vector and expressed in *E. coli*. The recombinant human IL-2 proteins were purified and stored in PBS buffer containing 0.1% BSA.

**Concentration:** 100 µg/ml, 1 x 10<sup>7</sup> IU/mg

**Directions for Use:** CST recommends using 50-100 ng/ml of IL-2 for stimulation of IL-2 signaling.

**Background References:**

- (1) Nelson, B.H. (2002) *Curr. Dir. Autoimmun.* 5, 92–112.
- (2) Tuháčková, Z. et al. (2004) *Int. J. Mol. Med.* 13, 601–605.
- (3) Ruscetti, F.W. (1985) *Year Immunol.* , 100–106.
- (4) Paetkau, V. (1985) *Can. J. Biochem. Cell Biol.* 63, 691–699.



Western blot analysis of extracts from CTLL-2 cells, untreated or IL-2-stimulated (100 ng/ml for 10 min), using Phospho-S6 Ribosomal Protein (Thr235/236) (2F9) Rabbit mAb #4856 (upper) or S6 Ribosomal Protein (5G10) Rabbit mAb #2217 (lower).

**Storage:** Interleukin-2 is supplied as a solution. It should be stored at -80°C. Aliquot the reagent upon receipt and avoid repeated freeze-thaw cycles.

**Companion Products:**

- S6 Ribosomal Protein (5G10) Rabbit mAb #2217
- Phospho-S6 Ribosomal Protein (Ser240/244) Antibody #2215
- Phospho-S6 Ribosomal Protein (Ser235/236) (2F9) Rabbit mAb #4856