Interleukin-2

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-2Rα and IL-2Rβ) 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 10^7 IU/mg

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

Background References:

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

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).