Product Description

Interleukin 2 (IL-2) is a monomeric cytokine that was originally identified as a T cell growth factor (Gaffen & Liu). It binds to a heterotrimeric receptor consisting of CD25, CD122, and CD132. Upon binding, it activates JAK3-, STAT5-, and AKT-dependent signaling pathways, which results in cellular proliferation and survival (Ma et al.). The majority of IL-2 is secreted by activated CD4+ and CD8+ T cells, although B cells and dendritic cells were found to produce IL-2 in small amounts. IL-2 downregulates immune responses to prevent autoimmunity during thymic development, influences the development of CD4+CD25+ T regulatory cells, and affects development of follicular helper T cells. IL-2 also controls inflammation by inhibiting Th17 differentiation (Banchereau et al.). Targeted deletions of the IL-2 gene in mice resulted in development of autoimmune hemolytic anemia, followed by ulcerative colitis. Similar effects were observed in mice that were deficient in IL-2 receptor α (Gaffen & Liu).

Product Information

Alternative Names: Aldesleukin, Interleukin-2, T cell growth factor, TCGF
Accession Number: P04351
Amino Acid Sequence: MAPTSSSTSS STAEAQQQQQ QQQQQQQHLE QLLMDLQELL SRMENYRLNLK LPRMLTFKFY LPKQATELKD LQCLEDDELQ LRHVLDLTQS KSFQLEDAEN FISNIRVTVV KLKGSDNTFE CQFDDESATV VDFLRRWIAF CQSIISTSPQ
Predicted Molecular Mass: 17.4 kDa
Species: Mouse
Cross Reactivity: Human
Formulation: Lyophilized from a sterile filtered aqueous solution containing sodium citrate, pH 4.0.
Source: E. coli

Specifications

Activity: The specific activity is ≥ 2 x 10^5 units/mg (EC50 ≤ 5 ng/mL) as determined by a cell proliferation assay of CTLL-2 cells.
Purity: ≥ 95 %
Endotoxin Level: Measured by kinetic limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/μg protein.

Preparation and Storage

Storage: Store at -20°C to -80°C.
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Resuspend the product in sterile 10mM acetic acid containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles. NOTE: If reconstituted product will be used immediately BSA is not required.
(A) The biological activity of Mouse Recombinant IL-2 was tested by its ability to promote the proliferation of CTLL-2 cells. Cell proliferation was measured after 3 days of culture using a fluorometric assay method. The EC50 is defined as the effective concentration of the protein at which cell proliferation is at 50% of maximum. The EC50 in the example above is 1.12 ng/mL.

(B) 1 μg of Mouse Recombinant IL-2 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant IL-2 has a predicted molecular mass of 17.4 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

