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# User Manual

**Interleukin-2 (IL-2) (Murine)**

**Cat. No. MEILP-02012**

## Description:

Mature mouse Interleukin-2 (IL-2) shares 56% and 73% amino acid (a.a.) sequence identity with human and rat IL-2, respectively. It shows strain-specific heterogeneity in an N-terminal region that contains a poly-glutamine stretch. Mouse and human IL-2 exhibit cross-species activity. The receptor for IL-2 consists of three subunits that are present on the cell surface in varying preformed complexes. The 55 kDa IL-2 Rαis specific for IL-2 and binds with low affinity. The 75 kDa IL-2 Rβ, which is also a component of the IL-15 receptor, binds IL-2 with intermediate affinity. The 64 kDa common gamma chainγc/IL-2 Rγ, which is shared with the receptors for IL-4, -7, -9, -15, and -21, does not independently interact with IL-2. Upon ligand binding, signal transduction is performed by both IL-2 Rβ and γc. It drives resting T cells to proliferate and induces IL-2 and IL-2 Rαsynthesis. It contributes to T cell homeostasis by promoting the Fas-induced death of naïve CD4+ T cells but not activated CD4+ memory lymphocytes. IL-2 plays a central role in the expansion and maintenance of regulatory T cells, although it inhibits the development of Th17 polarized cells.

## Source:

*Escherichia coli*

## Unit:

20 μg

## Reconstitution:

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at < -20°C. Further dilutions should be made in appropriate buffered solutions.

## Formulation:

Lyophilized from a 0.2 μm filtered solution in PBS, pH 7.4.

## Storage:

This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

## Molecular Weight:

Approximately 17.2 kDa, a single non-glycosylated polypeptide chain containing 149 amino acids.

## Endotoxin:

Less than 1 EU/μg of IL-2 as determined by LAL method.

## Usage:

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

## Biological Activity:

The ED50 determined by a cell proliferation assay using murine CTLL-2 cells is less than 0.2 ng/mL, corresponding to a specific activity of > $5.0 \times 10^6$ IU/mg.

## Physical Appearance:

Sterile filtered white lyophilized (freeze-dried) powder.

## AA Sequence:

APTSSSTSSS TAEAQQQQQQ QQQQQQHLEQ LLMDLQELLS RMENYRNLKL PRMLTFKFYL PKQATELKDL QCLEDELGPL RHVLDLTQSK SFQLEDAENF ISNIRVTVVK LKGSDNTFEC QFDDESATVV DFLRRWIAFC QSIISTSPQ

## Purity:

> 95% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.