IL-2, Human

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Datasheet

Cat. No.: Z00368-1

Synonyms: rHuIL-2; rHuIL2; Interleukin-2; Interleukin2

Size: 1 mg(2x500 μg)

Source: *E. coli*

Sequence: The sequence of the first five N-terminal amino acids has been found to be Met-Pro-Thr-Ser-Ser.

Purity: Greater than 95% as determined by the following methods:
(a) SEC-HPLC analysis
(b) Reducing and non-reducing SDS-PAGE silver-stained gel analysis

Endotoxin Level: Less than 0.1 ng/μg (1 EU/μg) of recombinant human Interleukin-2 (IL-2) as determined by LAL test.

Specific Activity: The ED_{50} as determined by the dose-dependant stimulation of the proliferation of CTLL-2 was found to be < 0.1 ng/ml, corresponding to a specific activity of > $1x10^7$ IU/mg.

Formulation: The protein was lyophilized after extensive dialysis against 50mM Phosphate buffer, pH7.5, 5% Mannitol buffer.

Reconstitution: It is recommended to reconstitute the lyophilized recombinant human Interleukin-2 (IL-2) in sterile 18 MΩ-cm H_2O not less than 100 μg/ml, which can then be further diluted to other aqueous solutions.

Storage: Lyophilized **recombinant human Interleukin-2 (IL-2)** remains stable at room temperature for three weeks, but it is best stored desiccated below -18°C. Upon reconstitution recombinant human Interleukin-2 (IL-2) should be stored at 4°C for up to seven days. For long term storage it is recommended that a carrier protein (0.1% HSA or BSA) be added. Avoid repeated freeze-thaw cycles.

Description:

In vitro studies performed on human cell lines demonstrate the immunoregulatory properties of Interleukin-2 (IL-2) including: 1) enhancement of lymphocyte mitogenesis and stimulation of long-term growth of human Interleukin-2 (IL-2) dependent edll lines; 2) enhancement of lymphocyte cytotoxicity; 3) induction of killer cell (lymphokine-activated (LAK) and natural (NK)) activity; 4) induction of interferon-gamma production.

Recombinant human Interleukin-2 (IL-2) is a highly purified protein with a molecular weight of approximately 15,300 Da. The chemical name is des-alanyl-1, serine-125 human interleukin-2. It is produced by recombinant DNA technology using a genetically engineered *E. coli* strain containing an analog of the human Human Interleukin-2 (IL-2) gene. Genetic engineering techniques were used to modify the human Interleukin-2 (IL-2) gene, and the resulting expression clone encodes a modified human Interleukin-2 (IL-2). This recombinant form differs from native Interleukin-2 (IL-2) in following ways: 1) it is not glycosylated; 2) the molecule has no N-terminal alanine; 3) the molecule has serine substituted for cysteine at amino acid position 125; 4) the aggregation state of molecule is likely to be different from that of native Interleukin-2 (IL-2).

References:

Yu J, *et al*. Interleukin-2 reconstitutes defective human immunodeficiency virus (HIV), and cytomegalovirus (CMV) specific CD8+ T cell proliferation in HIV infection. J. Med. Virol. Sep 2006; 78 (9): 1147-1157.
Perchonock CE, *et al*. Negative Regulation of Interleukin-2 and p38 Mitogen-Activated Protein Kinase during T-Cell Activation by the Adaptor ALX. Mol. Cell. Biol. Aug 2006; 26 (16): 6005-6015.
Gujar SA, Michalak TI. Characterization of bioactive recombinant woodchuck interleukin-2 amplified by RLM-RACE and produced in eukaryotic expression system. Vet. Immunol. Immunopathol. Aug 2006; 112 (3-4): 183-198.

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