

## Recombinant Human IL2 therapeutic protein(Aldesleukin)

Cat. No. IL2-P044H    Lot. No. (See product label)

### SPECIFICATION

#### Product Overview

Recombinant Human Interleukin 2 is produced by recombinant DNA technology using a genetically engineered E. coli strain containing an analog of the human interleukin-2 gene. Genetic engineering techniques were used to modify the human IL-2 gene, and the resulting expression clone encodes a modified human interleukin-2. This recombinant form differs from native interleukin-2 in the following ways: a) Aldesleukin is not glycosylated because it is derived from E. coli; b) the molecule has no N-terminal alanine; the codon for this amino acid was deleted during the genetic engineering procedure; c) the molecule has serine substituted for cysteine at amino acid position 125.

#### Species

Human

#### Source

E.coli

#### Description

The protein encoded by this gene is a secreted cytokine that is important for the proliferation of T and B lymphocytes. The receptor of this cytokine is a heterotrimeric protein complex whose gamma chain is also shared by interleukin 4 (IL4) and interleukin 7 (IL7). The expression of this gene in mature thymocytes is monoallelic, which represents an unusual regulatory mode for controlling the precise expression of a single gene. The targeted disruption of a similar gene in mice leads to ulcerative colitis-like disease, which suggests an essential role of this gene in the immune response to antigenic stimuli. Our expression product is the active ingredient of Proleukin.

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|                       |                                                                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Molecular Mass</b> | 15.3 Kda                                                                                                                                                                        |
| <b>AA Sequence</b>    | MAPTSSSTKKTQLQLEHLLLDLQMILNGINNYKNPKLTRMLTFKFYMPKKATELKHLQ<br>CLEEELKPLEEVNLAQSKNFHLRPRDLISNINVIVLELKGSETTFMCEYADETATIVE<br>FLNRWITFCQSIISTLT                                   |
| <b>Endotoxin</b>      | < 1.0 EU per µg of the protein                                                                                                                                                  |
| <b>Purity</b>         | >95%                                                                                                                                                                            |
| <b>Storage</b>        | Can be stored at +4 centigrade short term (1-2weeks). For long term storage, aliquot and store at -20 centigrade or -70 centigrade. Avoid repeated freezing and thawing cycles. |
| <b>Alias</b>          | IL2; TCGF; IL-2; Aldesleukin                                                                                                                                                    |

## GENE INFORMATION

|                        |                                                                                                                                                        |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | IL2 interleukin 2 [ Homo sapiens ]                                                                                                                     |
| <b>Official Symbol</b> | IL2                                                                                                                                                    |
| <b>Synonyms</b>        | IL2; interleukin 2; interleukin-2; IL 2; T cell growth factor; TCGF; aldesleukin; involved in regulation of T-cell clonal expansion; IL-2; lymphokine; |
| <b>Gene ID</b>         | 3558                                                                                                                                                   |
| <b>mRNA Refseq</b>     | NM_000586                                                                                                                                              |
| <b>Protein Refseq</b>  | NP_000577                                                                                                                                              |

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|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MIM</b>                 | 147680                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>UniProt ID</b>          | P60568                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Chromosome Location</b> | 4q26-q27                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Pathway</b>             | Allograft rejection, organism-specific biosystem; Allograft rejection, conserved biosystem; Autoimmune thyroid disease, organism-specific biosystem; Autoimmune thyroid disease, conserved biosystem; Calcineurin-regulated NFAT-dependent transcription in lymphocytes, organism-specific biosystem; Calcium signaling in the CD4+ TCR pathway, organism-specific biosystem; Chagas disease (American trypanosomiasis), organism-specific biosystem; |
| <b>Function</b>            | carbohydrate binding; cytokine activity; glycosphingolipid binding; growth factor activity; interleukin-2 receptor binding; interleukin-2 receptor binding; kappa-type opioid receptor binding; kinase activator activity;                                                                                                                                                                                                                            |

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