

# Recombinant rat Interleukin-15 (IL-15)

## Certificate of Analysis and Data Sheet

➤ <b>Source:</b> E.Coli	➤ <b>Catalog No.</b> CTK-345
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### ➤ **Background:**

Interleukin (IL)-15 is a pleiotropic pro-inflammatory cytokine that is expressed in several inflammatory disorders, including rheumatoid arthritis, psoriasis and pulmonary inflammatory diseases. IL-15 promotes activation of T cells, neutrophils and macrophages, and is critical to dendritic cell function in several model systems. Recent emerging data suggest that IL-15 may serve as a useful therapeutic target across a range of disease states. Advances in the past year highlight the beneficial effect of IL-15 neutralisation in models of psoriasis and diabetes. Further evidence for IL-15 expression and effector function has emerged across a range of rheumatic disorders, including juvenile inflammatory arthritis, rheumatoid arthritis and Kawasaki disease. Interleukin-15 (IL-15) is a gamma-common cytokine, which plays an important role in the development, survival and proliferation of NK, NK T and CD8+ T cells.

### ➤ **Description :**

Recombinant Rat IL-15 produced in E.Coli is a single, non-glycosylated polypeptide chain containing 115 amino acids and having a molecular mass of 13533 Dalton.  
Recombinant rat IL-15 is purified by proprietary chromatographic techniques.

### ➤ **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

### ➤ **Formulation:**

Recombinant interleukin-15 was lyophilized from a concentrated (1mg/ml) solution with with no additives.

### ➤ **Solubility:**

It is recommended to reconstitute the lyophilized rat IL-15 in sterile 18MΩ-cm H<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

↻ **Stability:**

Lyophilized Interleukin-15 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution IL-15 should be stored at 4° C between 2-7 days and for future use below -18° C. For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Please avoid freeze-thaw cycles.**

↻ **Purity:**

Greater than 98.0% as determined by:

(a) Analysis by RP-HPLC.

(b) Anion-exchange FPLC.

(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

↻ **Amino acid sequence:**

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Asn-Trp-Ile-Asp.

↻ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

↻ **Biological activity:**

This rat IL-15 is fully biologically active when compared to standard. The ED50 as determined by the dose-dependent stimulation of the proliferation of CTLL-2 was found to be < 5 ng/ml, corresponding to a Specific Activity of  $2 \times 10^5$  IU/mg.

↻ **Protein content:**

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 0.55 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).

2. Analysis by RP-HPLC, using a calibrated solution of IL-15 as a Reference Standard.

↻ **Endotoxin:**

Less than 0.1 ng/μg (IEU/μg) of rat IL-15.

↻ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.

