

Recombinant Rat Insulin Like Growth Factor-I (IGF-1)

Certificate of Analysis and Data Sheet

➤ Source: E.Coli	➤ Catalog No. CTK-289
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➤ **Background:**

A well-characterized basic peptide believed to be secreted by the liver and to circulate in the blood. It has growth-regulating, insulin-like, and mitogenic activities. This growth factor has a major, but not absolute, dependence on Somatotropin. It is believed to be mainly active in adults in contrast to Insulin like Growth Factor 2, which is a major fetal growth factor.

➤ **Description :**

Recombinant Rat IGF- produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 70 amino acids and having a molecular mass of 7687 Dalton.

IGF-I is purified by proprietary chromatographic techniques.

➤ **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

➤ **Formulation:**

Rat IGF-1 was lyophilized after extensive dialysis against 100mM acetic acid.

➤ **Solubility:**

It is recommended to reconstitute the lyophilized Rat IGF-I in sterile 18MΩ-cm H₂O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.

➤ **Stability:**

Lyophilized Rat IGF-I although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution Rat IGF-1 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 95.0% 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 Gly-Pro-Glu-Thr-Leu. N-terminal methionine has been completely removed enzymatically.

➤ **Dimers and aggregates:**

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

➤ **Biological Activity:**

This Rat IGF-1 is fully biologically active when compared to standards. The ED₅₀, was calculated 2 methods: 1. Stimulation of protein synthesis in rat L6 myoblasts ED50 was found to be less than 30 ng/ml.

2. Type 1 IGF receptor binding assay ED50 was found to be less than 10 ng/ml.

➤ **Endotoxin:**

Less than 0.1 ng/μg (IEU/μg) of Rat IGF-I.

➤ **Protein content:**

Protein quantitation was carried out by two independent methods:

- 1. UV spectroscopy at 280 nm.
- 2. Analysis by RP-HPLC, using a standard solution of Rat IGF-I as a Reference Standard.

➤ **References:**

Shimatzu A. & Rotwein P. (1987) J. Biol. Chem. 262, 7894-7900

Upton Z. et al. (1996) J. Endocrinol. 149, 379-387

➤ **Usage:**

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