**rR IGF-1**

*recombinant Rat Insulin-like Growth Factor-1*

**Product code A8294**

**Description:**
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. Recombinant Rat IGF-1 produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 70 amino acids and having a molecular mass of 7687 Dalton.

**Physical Appearance:** sterile filtered white lyophilized (freeze-dried) powder.

**Source:**
*E. coli*

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

**Reconstitution:**
It is recommended to reconstitute the lyophilized product with sterile water at a concentration of 0.1 mg/ml, which can be further diluted into other aqueous solutions.

**Stability:**
Lyophilized product is very stable at -20°C. Reconstituted material should be aliquoted and frozen at -20°C. It is recommended to add a carrier protein (0.1 % HSA or BSA) for long term storage.

**Purity:**
> 95 % as determined by RP-HPLC, reducing and non-reducing SDS-PAGE.

**Protein Content:**
determined by UV spectroscopy at 280 nm. Analysis by RP-HPLC calibrated against a known standard. Quantitation on SDS-PAGE against a known standard.

**Biological Activity:**
Rat IGF-1 is fully biologically active when compared to standards. The ED$_{50}$ was calculated 2 methods: 1. Stimulation of protein synthesis in rat L6 myoblasts ED$_{50}$ was found to be less then 30 ng/ml. 2. Type 1 IGF receptor binding assay ED$_{50}$ was found to be less then 10 ng/ml.

**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.

**References**
6.) Insulin-like growth factor-I is an important antiapoptotic factor for rat leydig cells during postnatal development. *Endocrinology* (2007) **148**(1), 128-139

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