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

Certificate of Analysis and Data Sheet

Source:	Catalog No.
E.Coli	CTK-294

Background:

IGF is 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 Bream IGF-I produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 67 amino acids and having a molecular mass of 7379 Dalton.
Recombinant IGF-I is purified by proprietary chromatographic techniques.

Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation:

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

Solubility:

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

Stability:

Lyophilized IGF-I although stable at room temperature for 3 weeks, should be stored desiccated below -18 C. Upon reconstitution IGF-I 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.

Dimers and aggregates:

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

Biological Activity:

This IGF- is fully biologically active when compared to standards. The ED50 calculated by stimulation of protein synthesis in rat L6 myoblasts ED50 was found to be less then 50 ng/ml.

Endotoxin:

Less than 0.1 ng/µg (IEU/µg) of 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 Bream IGF-I as a Reference Standard.

References:

Cao Q. et al. (1989) Mol. Endocrinol. 3, 2005-2010
Shamblott M. J. & Chen T.T. (1992) Proc. Natl. Acad. Sci. 89, 8913-8917
Moriyama S. et al. (1995) Gen. Comp. Endocrinol. 99, 221-229

Usage:

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