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IGF1 Gilthead Seabream

IGF1 Gilthead Seabream Recombinant
GRF0161

Product Overview

Name	IGF1 Gilthead Seabream

Description

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Synonyms

Somatomedin C, IGF-I, IGFI.

Introduction

The somatomedins, or IGFs, comprise a family of peptides that play important roles in mammalian growth and development. IGF1 mediates many of the growth-promoting effects of GH. Early studies showed that GH did not directly stimulate the incorporation of sulfate into cartilage, but rather acted through a serum factor, termed 'sulfation factor,' which later became known as somatomedin. Three main somatomedins have been characterized: somatomedin C (IGF1), somatomedin A (IGF2), and somatomedin B.

Source

Escherichia Coli.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

The protein was lyophilized from a concentrated (1mg/ml) solution with 0.02% NaHCO3.

Stability

Lyophilized IGF1 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution IGF1 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 prevent freeze-thaw cycles.

Purity

Greater than 98.0% as determined by: (a) Analysis by SEC-HPLC. (b) Analysis by SDS-PAGE.

Amino acid sequence

MSPETLCGAELVDTLQFVCGERGFYFSKPGYGPNARRSRGIVDECCFQSCELRRLEMYCAPAKTSK

Biological Activity

Binding assays of the 125I-Gealthead Seabream IGF1 to Gilthead Seabream or carp (Cyprinus carpio) sera resulted in high specific binding, indicating the existence of one or more IGF-binding proteins. In binding experiments to crude

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Gilthead Seabream brain homogenate, using human (h) IGF-I as a ligand, the respective IC50 value of hIGF1 was about fourfold lower than that of Gilthead Seabream IGF-1. Recombinant Gilthead Seabream IGF-1 exhibited mitogenic activity in a mouse mammary gland-derived MME-L1 cell line which was approximately 200-fold lower than that of hIGF1. Binding experiments to intact MME-L1 cells suggests that this difference most likely results from a correspondingly lower affinity for IGF1 receptor in these cells. In contrast, the activities of Gilthead Seabream IGF-I and hIGF-I measured by 35S uptake by gill arches from the goldfish (Carassius auratus) were identical, indicating that the recombinant Gilthead Seabream IGF-I is biologically active.

Solubility

It is recommended to reconstitute the lyophilized IGF-1 in sterile 0.4% NaHCO3 adjusted to ph 8-9, not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Protein content

Somatomedin C quantitation was carried out by two independent methods1. UV spectroscopy at 280 nm using the absorbency value of 0.60 as the extinction coefficient for a 0.1% (1mg/ml) solution at pH 8.0. 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 IGF1 as a Reference Standard.

Precautions

IGF1 Gilthead Seabream is for research use only and not for use in diagnostic or therapeutic procedures.