

Gilthead Seabream IGF1 Recombinant Protein

RPPB0426



Product Information

Product SKU:

RPPB0426

Form:

Lyophilized

Size:

50ug

Category:

Recombinant Protein

Species:

Fish

Source:

Escherichia Coli.

Background

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.

IGF1 Gilthead Seabream Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 68 amino acids and having a molecular mass of 7545.4 Dalton, the predicted pI=7.72. IGF-1 is purified by proprietary chromatographic techniques

Biological Activity:

Binding assays of the 125I-Gealthed 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 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.

Protein Content:

Somatomedin C quantitation was carried out by two independent methods:

1. 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.

Synonyms:

Somatomedin C, IGF-I, IGFI.

Formulation:

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

Solubility:

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

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:

MSPETLCGAELVDTLQFVCGERGFYFSKPGYGNARRSRGIVDECCFQSCLELRRLMYCAPAKTSK