

## 32-1344: sIGF1 Recombinant Protein

**Alternative Name :** Somatomedin C,IGF-I,IGFI.

### Description

Source : Escherichia Coli. Insulin-Like Growth Factor-IGilthead SeabreamRecombinant 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. The somatomedins, or insulin-like growth factors (IGFs), comprise a family of peptides that play important roles in mammalian growth and development. IGF1 mediates many of the growth-promoting effects of growth hormone (GH; MIM 139250). Early studies showed that growth hormone 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' (Daughaday et al., 1972). Three main somatomedins have been characterized: somatomedin C (IGF1), somatomedin A (IGF2; MIM 147470), and somatomedin B (MIM 193190) (Rotwein, 1986; Rosenfeld, 2003).

### Product Info

|                            |  |
|----------------------------|--|
| <b>Amount :</b>            | 50 µg  |
| <b>Purification :</b>      | Greater than 98.0% as determined by:(a) Analysis by SEC-HPLC.(b) Analysis by SDS-PAGE.   |
| <b>Content :</b>           | The protein was lyophilized from a concentrated (1mg/ml) solution with 0.02% NaHCO <sub>3</sub> .<br>Lyophilized Insulin-Like Growth Factor-1 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. |
| <b>Storage condition :</b> |  |
| <b>Amino Acid :</b>        | The sequence of the first ten N-terminal amino acids was determined and was found to be Met-Ser-Pro-Glu-Thr-Leu-Cys-Gly-Ala-Glu.   |

### Application Note

It is recommended to reconstitute the lyophilized IGF-1 in sterile 0.4% NaHCO<sub>3</sub> adjusted, not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. 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 Gilthead Seabream brain homogenate, using human (h) IGF-I as a ligand, the respective IC<sub>50</sub> 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.

