



## Growth Hormone, Gilthead Seabream recombinant (rbGH)

**Catalog No:** 97073  
**Lot No:** XXXXX  
**Source:** *E. coli*  
**Synonyms:** GH1, GH, GHN, GH-N, hGH-N, Pituitary growth hormone, Growth hormone 1, Somatotropin

### Background

GH is a member of the somatotropin/prolactin family of hormones which play an important role in growth control. Its major role in stimulating body growth is to stimulate the liver and other tissues to secrete IGF-1. It stimulates both the differentiation and proliferation of myoblasts. It also stimulates amino acid uptake and protein synthesis in muscle and other tissues.

### Description

Somatotropin Gilthead Seabream (*Sparus Aurata*) recombinant produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 188 amino acids with an additional Ala at the N-terminus and having a molecular mass of 21.4 kDa. GH is purified by proprietary chromatographic techniques.

### Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

### Formulation

The protein was lyophilized from a concentrated (1 mg/ml) solution with 0.02% NaHCO<sub>3</sub>.

### Solubility

It is recommended to reconstitute the lyophilized GH in 0.4% NaHCO<sub>3</sub> or water adjusted to pH 8-9, not less than 100 µg/ml, which can then be further diluted to other aqueous solutions, preferably in a presence of a carrier protein such as BSA or similar.

### Stability

Lyophilized Growth-Hormone, although stable at room temperature for at least two weeks, should be stored desiccated below -18°C. Upon reconstitution and filter sterilization GH can be stored at 4°C, pH 9 for up to 4 weeks. For long term storage and more diluted solutions 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

The sequence of the first five N-terminal amino acids was determined and was found to be Thr-Asp-Gly-Gln-Arg-Leu.

### Activity

Binding assays of the 125I-labeled gilthead seabream GH to dolphin fish liver microsomal fraction resulted in high specific binding characterized by a K<sub>a</sub> of 1.93 nM and a B<sub>max</sub> of 540 fmol/mg microsomal fraction protein. Recombinant gilthead seabream Growth Hormone, like ovine placental lactogen, exhibited growth-stimulating activity when applied orally to *Sparus aurata* larvae or intraperitoneally to juvenile fish.

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#### Usage

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