

## GH

### Growth Hormone

#### bream, recombinant, *E. coli*

Cat. No.	Amount
PR-435	100 $\mu$ g

For *in vitro* use only  
Quality guaranteed for 12 months  
Store at -80°C

#### Avoid freeze / thaw cycles

#### Form

Lyophilized.

#### Solubility

It is recommended to reconstitute the lyophilized GH in sterile bidest H<sub>2</sub>O not less than 100  $\mu$ g/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

#### Endotoxin

Less than 0.1 ng/ $\mu$ g (IEU/ $\mu$ g) of GH.

#### Molecular Weight

21 kDa

#### Purity

≥ 95% by SDS-PAGE and RP-HPLC

#### Description

The Growth Hormone (GH) is a polypeptide that is secreted by the adenohypophysis. Growth hormone, also known as somatotropin, stimulates mitosis, cell differentiation and cell growth. Species-specific growth hormones have been synthesized.

GH augments the cytolytic activity of T-cells, antibody synthesis, and granulocyte differentiation induced by GM-CSF. GH also enhances production of TNF-alpha, generation of superoxide anions from peritoneal macrophages, and natural killer activity.

Recombinant bream GH produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing having a molecular mass of 21.41 kDa. Bream GH shares 97% amino acid sequence identity with gilthead sea bream, 94% with red sea bream, 93% with the tuna, 91% with barramundi and 63% with the salmon.

The GH is purified by proprietary chromatographic techniques.

#### Selected References:

- Herrero-Turrion *et al.* (2003) Growth hormone expression in ontogenic development in gilthead sea bream. *Cell Tissue Res.* **313**:81.
- Villaplana *et al.* (2003) Immunocytochemical and ultrastructural characterization of mammosomatotrope-, growth hormone-, and prolactin-cells from the gilthead sea bream (*Sparus aurata* L., Teleostei): an ontogenic study. *J. Morphol.* **255**:347.
- Mingarro *et al.* (2002) Endocrine mediators of seasonal growth in gilthead sea bream (*Sparus aurata*): the growth hormone and somatolactin paradigm. *Gen. Comp. Endocrinol.* **128**:102.
- Villaplana *et al.* (2000) Identification of mammosomatotropes, growth hormone cells and prolactin cells in the pituitary gland of the gilthead sea bream (*Sparus aurata* L., Teleostei) using light immunocytochemical methods: an ontogenetic study. *Anat. Embryol. (Berl.)* **202**:421.
- Marti-Palanca *et al.* (1996) Growth hormone as a function of age and dietary protein: energy ratio in a marine teleost, the gilthead sea bream (*Sparus aurata*). *Growth Regul.* **6**:253.
- Funkenstein *et al.* (1996) Ontogeny of growth hormone protein and mRNA in the gilthead sea bream *Sparus aurata*. *Growth Regul.* **6**:16.