



Growth Hormone (GH), bovine recombinant (rbGH)

Catalog No: 97238
Lot No: XXXXX
Source: *E. coli*
Synonyms: BGH, BST, rBGH, rBST, Bovine Somatotropin, Bovine GH, Growth hormone, GH1

Background

GH is a member of the somatotropin/prolactin family of hormones which play an important role in growth control. The gene, along with four other related genes, is located at the growth hormone locus on chromosome 17 where they are interspersed in the same transcriptional orientation; an arrangement which is thought to have evolved by a series of gene duplications. The five genes share a remarkably high degree of sequence identity. Alternative splicing generates additional isoforms of each of the five growth hormones, leading to further diversity and potential for specialization. This particular family member is expressed in the pituitary but not in placental tissue as is the case for the other four genes in the growth hormone locus. Mutations in or deletions of the gene lead to growth hormone deficiency and short stature.

Description

Growth Hormone bovine recombinant produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 191 amino acids and having a molecular mass of 21.8 kDa. GH is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

The Bovine Growth Hormone protein was lyophilized from a concentrated (1 mg/ml) solution with 0.0045 mM NaHCO₃ adjusted to pH 8.

Solubility

It is recommended to reconstitute the lyophilized GH in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized Growth Hormone, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution GH Bovine 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

AFPAMSLSGL FANAVLRAQH LHQLAADTFK EFERTYIPEG QRYSIQNTQV AFCFSETMPA PTGKNEAQQK SDLELLRISL
LLIQSWLGPL QFLSRVFTNS LVFGTSDRVY EKLKDLEEGI LALMRELEDG TPRRGQILKQ TYDKFDTNMR SDDALLKNYG
LLSCFRKDLH KTETYLRVMK CRRFGEASCA F

Activity

The activity as determined by the PDFP13B9 cells stably transfected with rabbit GH receptors. Bovine GH is also capable of forming a 1:2 complex with the recombinant ovine growth hormone receptor extracellular domain (ECD).

CONTACT US TODAY

BIOMOL GmbH • Kieler Straße 303a • 22525 Hamburg • Germany • info@biomol.de • www.biomol.de

Fon: +49 (0)40-853 260 0 • TOLL FREE IN GERMANY: Fon: 0800-246 66 51



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