

Recombinant Bovine Growth Factor (rb GH)

Synonyms: BGH, BST, rBGH, rBST, Bovine Somatotropin, Bovine GH, Growth hormone, GH1.

Introduction: 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: Recombinant human Growth Factor produced in E.Coli is a single, non-glycosylated polypeptide chain containing 191 amino acids and having a molecular mass of 21.8 kDa.
Recombinant bovine GH is purified by proprietary chromatographic techniques.

Source: Escherichia Coli

Physical Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation: lyophilized from a concentrated (1mg/ml) solution with 0.0045mM NaHCO₃ adjusted to pH-8.

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

Stability: Lyophilized rb GH although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rb GH 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 RP-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 Ala-Thr-Phe-Pro-Ala

Biological 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).

Protein content: Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 0.59 as the extinction coefficient for a 0.1% (1mg/ml) solution. 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 GH as a Reference Standard.

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| <i>small</i> | 100 µg | Cat.N° | 17343566 |
| <i>medium</i> | 500 µg | Cat.N° | 17343567 |

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