Growth Hormone, Mouse, Recombinant

Recombinant Mouse Growth Hormone (GH)

Catalog#	Quantity	Lot#
GH1002	50 μg	0607

Source: Recombinant mouse protein expressed in *E. coli* (residues F27- F216, 190 amino acid residues)
Formulation: Lyophilized powder lyophilized from phosphate-buffered saline (PBS).
Preservative: None.
MW: 22 kD
Purity: >97% on 15% SDS-PAGE.
Sterility: 0.2 μm membrane-filtered and packaged aseptically.
ED50: ND
Endotoxin: ≤ 1 EU/μg, as determined by the LAL method
QC Tests: SDS-PAGE

Reconstitution and Use:

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) to a concentration no less than 100 μg/ml and aliquot for future use*. (If the initial rehydration is too dilute, activity may be lost due to the non-specific adsorption to the container).* The solution can then be further diluted to a working stock solution. If the product is going to be used for applications requiring absolute asepsis, it's best to filter-sterilize the solution using a sterile and non-pyrogenic 0.2 μm membrane before use.

Storage and Stability:

Upon receiving, store the product at −20°C. After reconstitution, store the working aliquots at 2-8 °C for no more than 3 months. For extended storage, aliquot the rehydrated solution (≥100 μg/ml) and freeze at −70 °C or -20 °C. Avoid repeated freezing and thawing. More dilute solutions stored at -20 °C will lose activity faster.

About Growth Hormone

Growth hormone (GH), also known as somatotropin, is a member of a family of growth factors that includes prolactin, placental lactogens, proliferins, and somatolactin. It is synthesized, stored and secreted by the somatotroph cells within the lateral wings of the anterior pituitary gland, which stimulates growth and cell reproduction in humans and other animals. The pulsatile release of GH into circulation is regulated by the concerted actions of the hypothalamic hormones - GH-releasing hormone (GHRH) and somatostatin (SST) - as well as by signals from the periphery - ghrelin and leptin. The mouse GH cDNA encodes a 216 amino acid (aa) residue precursor protein with a 26-amino acid signal peptide. By alternative splicing, at least four isoforms of GH have been identified. GH stimulates the liver and other tissues to produce IGF-1, which regulates growth and metabolism. GH has also been shown to have direct effects on growth that is independent of IGF-1. GH, directly or indirectly via IGF-1, can act on B cells, T cells, NK cells, macrophages and neutrophils to exert immunomodulatory activities. In addition, GH can act directly on various cell types to induce lipolysis, lactation, amino acid uptake and protein synthesis.

References:

Goffin, V. *et al.*, 1996, Endocrine Rev. **17**:385 - 410.

Le Roith, D. *et al.*, 2001, Endocrine Rev.*,* **22**:53 - 74.

Kojima, K. *et al.*, 1999, Nature, **402**:656 - 660.

Tannenbaum, G. *et al.*, 1998, Endocrinol. **139**:3871 - 3875.

Welniak, L.A. *et al*., 2002*,* J. Leukoc. Biol. **71**:381 - 387.