

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Growth Hormone in Western blots. In Western blots, approximately 5% cross-reactivity with recombinant rat Growth Hormone is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Growth Hormone Phe27-Phe217 Accession # CAA23779
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

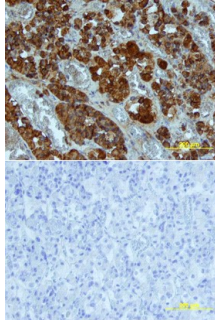
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human Growth Hormone (Catalog # 1067-GH)
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below

## DATA

### Immunohistochemistry



**Growth Hormone in Human Pituitary.** Growth Hormone was detected in immersion fixed paraffin-embedded sections of human pituitary using Goat Anti-Human Growth Hormone Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF1067) at 10 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Growth Hormone (GH), also known as somatotropin, is a member of a family of growth factors that includes prolactin, placental lactogens, proliferins, and somatotactin (1, 2). It is synthesized primarily by somatotropes in the anterior pituitary and is stored in secretory granules. 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 (3) and leptin (4). The human GH cDNA encodes a 217 amino acid (aa) residue precursor protein with a 26 aa putative signal peptide. By alternative splicing, at least four isoforms of GH have been identified (5).

Human GH is a pleiotropic cytokine that exerts its biological actions by binding to the transmembrane GH receptor, which is present in many cell types (1, 2). GH stimulates the liver and other tissues to produce IGF-I, which regulates growth and metabolism. GH has also been shown to have direct effects on growth that is independent of IGF-I. GH, directly or indirectly via IGF-I, can act on B cells, T cells, NK cells, macrophages, and neutrophils to exert immunomodulatory activities (6). In addition, GH can act directly on various cell types to induce lipolysis, lactation, amino acid uptake, and protein synthesis (1, 2, 6).

### References:

1. Goffin, V. *et al.* (1996) *Endocrine Rev.* **17**:385.
2. Le Roith, D. *et al.* (2001) *Endocrine Rev.*, **22**:53.
3. Kojima, K. *et al.* (1999) *Nature*, **402**:656.
4. Tannenbaum, G. *et al.* (1998) *Endocrinol.* **139**:3871.
5. Welniak, L.A. *et al.* (2002) *J. Leukoc. Biol.* **71**:381.