

#### DESCRIPTION

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human/Mouse/Rat                                                                                  |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human Growth Hormone in direct ELISAs and Western blots.                                 |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Goat IgG                                                                              |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                        |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human Growth Hormone<br>Phe27-Phe217<br>Accession # CAA23779 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                  |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                     |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                                  |

#### 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>Neutralization</b>       | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>ELISA</b>                | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

Growth Hormone (GH), also known as somatotropin, is a member of a family of growth factors that includes prolactin, placental lactogens, proliferins, and somatolactin (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).

#### PRODUCT SPECIFIC NOTICES

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