Species Reactivity: Rat

Specificity: Detects rat Growth Hormone R/GHR in Western blots. In this format, approximately 5% cross-reactivity with recombinant human GHR and recombinant mouse GHR is observed.

Source: Polyclonal Goat IgG

Purification: Antigen Affinity-purified

Immunogen: Mouse myeloma cell line NS0-derived recombinant rat Growth Hormone R/GHR Phe19-Arg265

Accession # P16310

Formulation: Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

Applications:

<table>
<thead>
<tr>
<th>Western Blot</th>
<th>Recommended Concentration</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.1 μg/mL</td>
<td>Recombinant Rat Growth Hormone R/GHR Fc Chimera (Catalog # 1211-GR)</td>
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</table>

Preparation and Storage:

Reconstitution: Reconstitute at 0.2 mg/mL in sterile PBS.

Shipping: The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage:

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 released as an endocrine hormone. Other cells and tissues, including lymphoid tissues, can also produce GH (3). GH is a pleiotropic molecule which can act directly or indirectly via IGF-I, to regulate growth and metabolism as well as enhance T cell survival and thymic functions (1, 2, 4). GH exerts its biological actions by binding to the GH receptor (GHR) that is present in many cell types (1, 2). Rat GHR cDNA encodes a 638 amino acid (aa) residue type I transmembrane protein with a 18 aa signal peptide, a 247 aa extracellular domain, a 24 aa transmembrane domain and a 349 aa cytoplasmic domain. An alternatively spliced 297 aa isoform of rat GHR also exists. This 297 aa variant corresponds to the extracellular domain of the transmembrane protein up to Gln262 (5). Ligation of GHR by GH has been shown to result in receptor dimerization and activation of the JAK/STAT signaling cascade (6). The soluble GHBP has been shown to interfere with GH signaling by competing with the transmembrane receptor of GH. Alternatively, the GHBP has also been shown to enhance GH action by slowing GH clearance (5, 7).

References: