**DESCRIPTION**

**Species Reactivity**
Human

**Specificity**
Detects human Prolactin in ELISAs and Western blots. In sandwich immunoassays, less than 0.05% cross-reactivity with recombinant mouse Prolactin and recombinant human Prolactin R is observed.

**Source**
Polyclonal Goat IgG

**Purification**
Antigen Affinity-purified

**Immunogen**
E. coli-derived recombinant human Prolactin (R&D Systems, Catalog # 682-PL)
Leu29-Cys227
Accession # Q5THQ0

**Formulation**
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.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Recommended Concentration</th>
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</thead>
<tbody>
<tr>
<td>Recombinant Human Prolactin (Catalog # 682-PL)</td>
<td>0.1 μg/mL</td>
</tr>
<tr>
<td>Human Prolactin Antibody (Catalog # AF682)</td>
<td>0.2-0.8 μg/mL</td>
</tr>
<tr>
<td>Human Prolactin Biotinylated Antibody (Catalog # BAF682)</td>
<td>0.1-0.4 μg/mL</td>
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</tbody>
</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**
Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 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**

Prolactin (PRL) is a neuroendocrine pituitary hormone. Prolactin is synthesized by the anterior pituitary, placenta, brain, uterus, dermal fibroblasts, decidua, B cell, T cells, NK cells, and breast cancer cells. Originally characterized as a lactogenic hormone, studies have demonstrated broader roles in breast cancer development, regulation of reproductive function, and immunoregulation. In the immune system, prolactin has been shown to be secreted by human PBMC and to act as a proliferative growth factor. Additionally, prolactin treatment of human PBMC has been shown to enhance IFN-γ production. Prolactin has several molecular forms. The predominant form is a monomer, the non-glycosylated form is 23 kDa and the glycosylated form is 25 kDa. Glycosylated prolactin is removed from the circulation faster and has been reported to have lower biological potency. Prolactin cDNA encodes a 227 amino acid residue protein with a putative 28 aa residue signal peptide. The prolactin receptor is a transmembrane type I glycoprotein that belongs to the cytokine hematopoietic receptor family. B cells, T cells, macrophages, NK cells, monocytes, CD34+ progenitor cells, neutrophils, mammary gland, liver, kidney, adrenals, ovaries, testis, prostate, seminal vesicles, and hypothalamus have all been shown to express the prolactin receptor. Three forms of the receptor, generated by differential splicing, have been identified. These isoforms differ in the length of their cytoplasmic domains. It is believed that the short cytoplasmic form is non-functional. Prolactin signal transduction involves the JAK/STAT families and Src kinase family.

**References:**