

DESCRIPTION	
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Prolactin in ELISAs and Western blots. In sandwich ELISAs, less than 0.05% cross-reactivity with recombinant mouse Prolactin and recombinant human Prolactin R.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Prolactin Leu29-Cys227 Accession # Q5THQ0
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

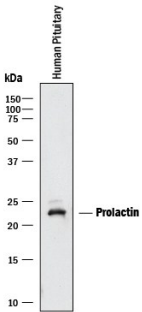
## APPLICATIONS

**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.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.25 µg/mL	See Below
<b>Immunohistochemistry</b>	1-15 µg/mL	See Below
<b>Human Prolactin Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	0.2-0.8 µg/mL	Human Prolactin Antibody (Catalog # AF682)
<b>ELISA Detection</b>	0.1-0.4 µg/mL	Human Prolactin Biotinylated Antibody (Catalog # BAF682)
<b>Standard</b>		Recombinant Human Prolactin (Catalog # 682-PL)
<b>Neutralization</b>	Measured by its ability to neutralize Prolactin-induced proliferation in the Nb2-11 rat lymphoma cell line [Gout, P.W. <i>et al.</i> (1980) <i>Cancer Research</i> 40:2433]. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.02-0.05 µg/mL in the presence of 0.5 ng/mL Recombinant Human Prolactin.	

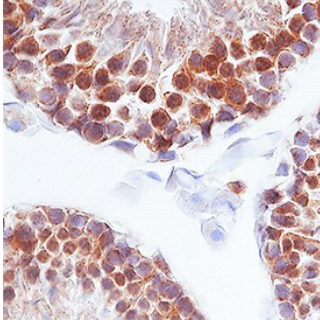
## DATA

**Western Blot**

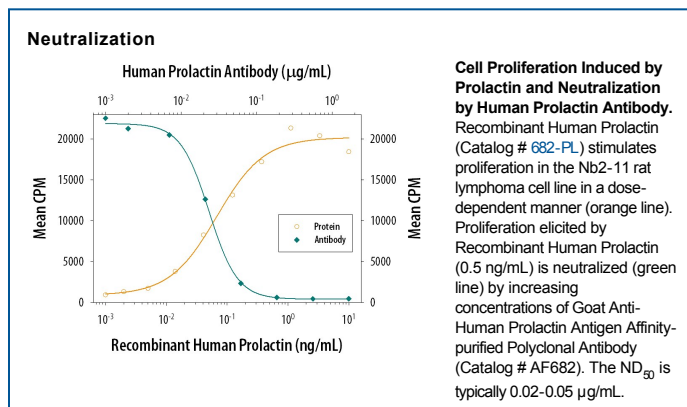


**Detection of Human Prolactin by Western Blot.** Western blot shows lysates of human pituitary tissue. PVDF membrane was probed with 0.25 µg/mL of Goat Anti-Human Prolactin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF682) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Prolactin at approximately 23 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**Immunohistochemistry**



**Prolactin in Human Testis.** Prolactin was detected in immersion fixed paraffin-embedded sections of human testis using Goat Anti-Human Prolactin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF682) at 1 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). Specific staining was localized to cytoplasm of sperm cells. 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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <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

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- $\gamma$  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<sup>+</sup> 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:

1. Cooke, N.E. *et al.* (1981) *J. Biol. Chem.* **256**:4007.
2. Ben-Johnson, N. *et al.* (1996) *Endoc. Rev.* **17**:639.
3. Cesario, T. *et al.* (1994) *Proc. Soc. Exp. Biol. Med.* **205**:89.
4. Price, A.E. *et al.* (1995) *Endoc.* **136**:4827.
5. Hoffmann, T. *et al.* (1993) *J. Endoc. Invest.* **16**:807.
6. Bellone, G. *et al.* (1995) *J. Cell Physiol.* **163**:221.
7. Cole, E. *et al.* (1991) *Endoc.* **129**:2639.
8. Lewis, U. *et al.* (1985) *Endoc.* **116**:359.