Human Prolactin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF682

DESCRIPTION

Species Reactivity	Human
Specificity	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.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Prolactin Leu29-Cys227 Accession # Q5THQ0
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or 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
Western Blot	0.25 µg/mL	See Below
Immunohistochemistry	1-15 µg/mL	See Below
Simple Western	2.5 µg/mL	Human pituitary tissue
Human Prolactin Sandwich Immunoassay		**Reagent**
ELISA Capture	0.2-0.8 µg/mL	Human Prolactin Antibody (Catalog # AF682)
ELISA Detection	0.1-0.4 µg/mL	Human Prolactin Biotinylated Antibody (Catalog # BAF682)
Standard		Recombinant Human Prolactin (Catalog # 682-PL)
Neutralization	Human Prolactin Antibody (Catalog # AF682) neutralizes Recombinant Human Prolactin (Catalog # 682-PL) induced proliferation in the Nb2-11 rat lymphoma cell line. The Neutralization Dose (ND_{50}) for this effect is typically 0.0200-0.200 µg/mL.	

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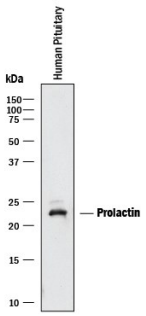
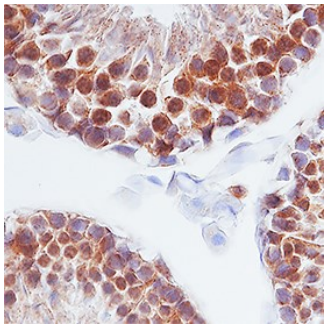
DATA

Western Blot



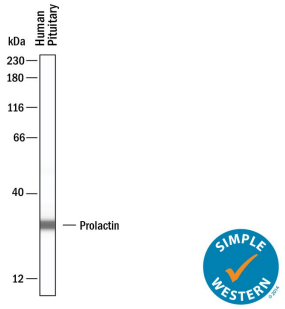
Detection of Human Prolactin by Western Blot. Western blot shows lysates of human pituitary tissue. PVDF membrane was probed with 0.25 µg/mL of Goat Anti-Human Prolactin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF682) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # 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



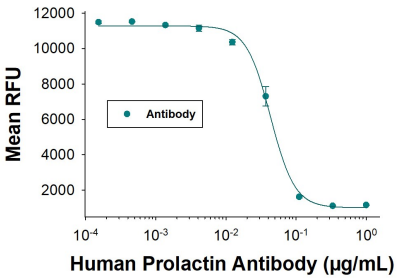
Prolactin in Human Testis. Prolactin was detected in immersion fixed paraffin-embedded sections of human testis using Goat Anti-Human Prolactin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF682) at 1 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # 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.

Simple Western



Detection of Human Prolactin by Simple Western™. Simple Western shows lysates of human pituitary, loaded at 0.2 mg/ml. A specific band was detected for Prolactin at approximately 30 kDa (as indicated) using 2.5 µg/mL of Goat Anti-Human Prolactin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF682). This experiment was conducted under reducing conditions and using the 12-230kDa separation system.

Neutralization



Neutralization by Human Prolactin Antibody Human Prolactin Antibody (Catalog # AF682) neutralizes Recombinant Human Prolactin (Catalog # 682-PL) induced proliferation in the Nb2 11 rat lymphoma cell line. The Neutralization Dose (ND_{50}) for this effect is typically 0.0200-0.200 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store 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.

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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, prostrate, 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:

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