Mouse/Rat Prolactin Antibody

Monoclonal Rat IgG_{2B} Clone # 207518

Catalog Number: MAB1445

DESCRIPTION

Species Reactivity	Mouse/Rat
Specificity	Detects mouse and rat Prolactin in Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human Prolactin is observed.
Source	Monoclonal Rat IgG_{2B} Clone # 207518
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant mouse Prolactin Leu32-Cys228 Accession # CAA28018
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 as a 0.2 µm filtered solution in PBS.

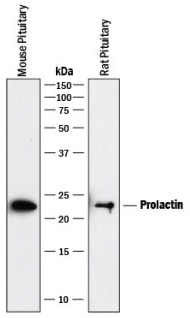
APPLICATIONS

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	1 µg/mL	See Below

DATA

Western Blot



Detection of Mouse and Rat Prolactin by Western Blot. Western blot shows lysates of mouse pituitary tissue and rat pituitary tissue. PVDF membrane was probed with 1 µg/mL of Rat Anti-Mouse/Rat Prolactin Monoclonal Antibody (Catalog # MAB1445) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). 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.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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
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 cells, T cells, NK cells and breast cancer cells. Originally characterized as a lactogenic hormone, further 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. In the breast, Prolactin-induced morphogenesis of the mammary cells is mediated through IGF-2, which in turn upregulates cyclin D1. 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. Mouse Prolactin cDNA encodes a 228 amino acid (aa) residue protein with a putative 31 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 at 14, 16, and 22 kDa. 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 (1-9).

References:

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