

## PRL-R (B10): sc-74520



The Power to Question

## BACKGROUND

The anterior pituitary secretes a variety of hormones that are involved in cell growth, differentiation and development. Prolactin, a 226 amino acid protein, plays a role in multiple processes, including cell growth, reproduction and immune function. Full length Prolactin, as well as an alternative splice product lacking the third exon, are secreted by endothelial cells involved in angiogenesis. In addition to its role in mammary development and lactation, Prolactin is known to play a role in the development of mammary cancer, acting as both a mitogen and a differentiating agent. Prolactin has also been shown to enhance the proliferation of B cell hybridomas, leading to an overall increase in antibody production. Prolactin reverses the antiproliferative effects of the immunosuppressive cytokine TGF- $\beta$ . Prolactin is also associated with a variety of autoimmune diseases, including arthritis and type 1 diabetes. The receptor for Prolactin (PRL-R) belongs to the cytokine receptor superfamily. PRL-R is activated by ligand-induced homodimerization and subsequent cell signaling through the JAK/Stat pathway. The gene encoding human PRL-R maps to chromosome 5p13.2.

## REFERENCES

1. Arden, K.C., et al. 1990. The receptors for Prolactin and growth hormone are localized in the same region of human chromosome 5. *Cytogenet. Cell Genet.* 53: 161-165.
2. Maaskant, R.A., et al. 1996. The human Prolactin receptor in the fetal membranes, decidua, and placenta. *J. Clin. Endocrinol. Metab.* 81: 396-405.
3. Goffin, V., et al. 1997. The Prolactin/growth hormone receptor family: structure/function relationships. *J. Mammary Gland Biol. Neoplasia* 2: 7-17.

## CHROMOSOMAL LOCATION

Genetic locus: Prlr (mouse) mapping to 15 A1.

## SOURCE

PRL-R (B10) is a mouse monoclonal antibody raised against amino acids 91-260 mapping within an extracellular domain of PRL-R of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PRL-R (B10) is available conjugated to agarose (sc-74520 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74520 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74520 PE), fluorescein (sc-74520 FITC), Alexa Fluor<sup>®</sup> 488 (sc-74520 AF488), Alexa Fluor<sup>®</sup> 546 (sc-74520 AF546), Alexa Fluor<sup>®</sup> 594 (sc-74520 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-74520 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-74520 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-74520 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

PRL-R (B10) is recommended for detection of PRL-R isoforms 1-3 of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PRL-R siRNA (m): sc-40168, PRL-R shRNA Plasmid (m): sc-40168-SH and PRL-R shRNA (m) Lentiviral Particles: sc-40168-V.

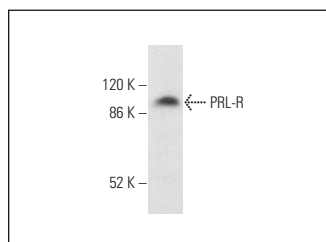
Molecular Weight of PRL-R: 100 kDa.

Positive Controls: mouse pancreas extract: sc-364244.

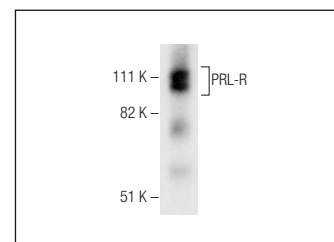
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



PRL-R (B10): sc-74520. Western blot analysis of PRL-R expression in T-47D whole cell lysate. Detection reagent used: m-IgG $\kappa$  BP-HRP: sc-516102.



PRL-R (B10): sc-74520. Western blot analysis of PRL-R expression in mouse pancreas tissue extract.

## SELECT PRODUCT CITATIONS

1. Labrie, V., et al. 2009. Serine racemase is associated with schizophrenia susceptibility in humans and in a mouse model. *Hum. Mol. Genet.* 18: 3227-3243.
2. Chávez-Güitrón, L.E., et al. 2016. The *in vitro* effect of Prolactin on the growth, motility and expression of Prolactin receptors in larvae of *Toxocara canis*. *Vet. Parasitol.* 224: 33-38.
3. Molina-Salinas, G., et al. 2023. Prolactin-induced neuroprotection against excitotoxicity is mediated via PI3K/AKT and GSK3 $\beta$ /NF $\kappa$ B in primary cultures of hippocampal neurons. *Peptides* 166: 171037.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.