

PRL-R (H-300): sc-20992

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 β . 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.

CHROMOSOMAL LOCATION

Genetic locus: PRLR (human) mapping to 5p13.2; Prlr (mouse) mapping to 15 A1.

SOURCE

PRL-R (H-300) is a rabbit polyclonal antibody raised against amino acids 323-622 of PRL-R of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PRL-R (H-300) is recommended for detection of PRL-R of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

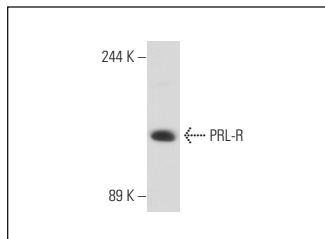
Suitable for use as control antibody for PRL-R siRNA (h): sc-40167, PRL-R siRNA (m): sc-40168, PRL-R shRNA Plasmid (h): sc-40167-SH, PRL-R shRNA Plasmid (m): sc-40168-SH, PRL-R shRNA (h) Lentiviral Particles: sc-40167-V and PRL-R shRNA (m) Lentiviral Particles: sc-40168-V.

Molecular Weight of PRL-R: 100 kDa.

STORAGE

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

DATA



PRL-R (H-300): sc-20992. Western blot analysis of PRL-R expression in 293T whole cell lysate.

SELECT PRODUCT CITATIONS

1. Widschwendter, A., et al. 2002. Prognostic significance of signal transducer and activator of transcription 1 activation in breast cancer. *Clin. Cancer Res.* 8: 3065-3074.
2. Aksamitiene, E., et al. 2011. Prolactin-stimulated activation of ERK1/2 mitogen-activated protein kinases is controlled by PI3-kinase/Rac/PAK signaling pathway in breast cancer cells. *Cell. Signal.* 23: 1794-1805.
3. Xu, C., et al. 2012. Stromal-epithelial interactions modulate cross-talk between prolactin receptor and HER2/Neu in breast cancer. *Breast Cancer Res. Treat.* 134: 157-169.
4. Halperin, J., et al. 2013. Estradiol, progesterone and prolactin modulate mammary gland morphogenesis in adult female plains vizcacha (*Lagostomus maximus*). *J. Mol. Histol.* 44: 299-310.
5. Yang, X., et al. 2013. STAT5 and prolactin participate in a positive autocrine feedback loop that promotes angiogenesis. *J. Biol. Chem.* 288: 21184-21196.
6. Yu, J., et al. 2013. Prolactin receptor (PRLR) regulates hepatic Insulin sensitivity in mice via signal transducer and activator of transcription (STAT)5. *Diabetes* 62: 3103-3013.
7. Martínez-Neri, P.A., et al. 2015. Prolactin modulates cytokine production induced by culture filtrate proteins of *M. bovis* through different signaling mechanisms in THP1 cells. *Cytokine* 71: 38-44.

RESEARCH USE

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

MONOS
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Try **PRL-R (D-7): sc-377098** or **PRL-R (B10): sc-74520**, our highly recommended monoclonal alternatives to PRL-R (H-300).