SANTA CRUZ BIOTECHNOLOGY, INC.

Prolactin (A-7): sc-46698

SANTA CRUZ® BIOTECHNOLOGY

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 developmant 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. In addition, Prolactin has been demonstrated to reverse 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.

CHROMOSOMAL LOCATION

Genetic locus: PRL (human) mapping to 6p22.3.

SOURCE

Prolactin (A-7) is a mouse monoclonal antibody raised against amino acids 96-200 of Prolactin of human origin.

PRODUCT

Each vial contains 200 µg IgG$_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Prolactin (A-7) is available conjugated to agarose (sc-46698 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-46698 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-46698 PE), fluorescein (sc-46698 FITC), Alexa Fluor® 488 (sc-46698 AF488), Alexa Fluor® 546 (sc-46698 AF546), Alexa Fluor® 594 (sc-46698 AF594) or Alexa Fluor® 647 (sc-46698 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-46698 AF680) or Alexa Fluor® 790 (sc-46698 AF790), 200 µg/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

Prolactin (A-7) is recommended for detection of Prolactin of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 Prolactin siRNA (h): sc-37214, Prolactin shRNA Plasmid (h): sc-37214-SH and Prolactin shRNA (h) Lentiviral Particles: sc-37214-V.
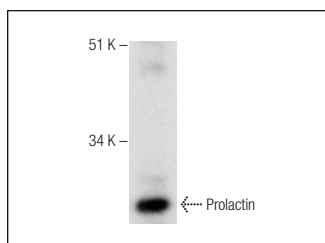
Molecular Weight of Prolactin: 27 kDa.

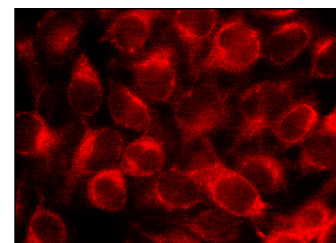Positive Controls: BT-20 cell lysate: sc-2223 or human pituitary tissue extract.

RESEARCH USE

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

DATA

Prolactin (A-7): sc-46698. Western blot analysis of Prolactin expression in human pituitary tissue extract.

Prolactin (A-7): sc-46698. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Kulkarni, M.V., et al. 2010. Two independent histidines, one in human prolactin and one in its receptor, are critical for pH-dependent receptor recognition and activation. J. Biol. Chem. 285: 38524-38533.

2. Yang, X., et al. 2013. Stat5 and Prolactin participate in a positive autocrine feedback loop that promotes angiogenesis. J. Biol. Chem. 288: 21184-21196.

3. Rotondi, S., et al. 2016. Expression of peroxisome proliferator-activated receptor α (PPARα) in somatotropinomas: relationship with aryl hydrocarbon receptor interacting protein (AIP) and *in vitro* effects of fenofibrate in GH3 cells. Mol. Cell. Endocrinol. 426: 61-72.

4. Wang, X., et al. 2017. Compounds from *Cynomorium songaricum* with estrogenic and androgenic activities suppress the oestrogen/androgen-induced BPH process. Evid. Based Complement. Alternat. Med. 2017: 6438013.

5. Kim, Y.J., et al. 2018. WDR11-mediated hedgehog signalling defects underlie a new ciliopathy related to Kallmann syndrome. EMBO Rep. 19: 269-289.

6. Zhang, S., et al. 2020. Single-cell transcriptomics identifies divergent developmental lineage trajectories during human pituitary development. Nat. Commun. 11: 5275.

7. Ding, H., et al. 2021. MICA-G129R: A bifunctional fusion protein increases PRLR-positive breast cancer cell death in co-culture with natural killer cells. PLoS ONE 16: e0252662.

8. Zhang, Q., et al. 2023. Single-cell sequencing identifies differentiation-related markers for molecular classification and recurrence prediction of PitNET. Cell Rep. Med. 4: 100934.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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Santa Cruz Biotechnology, Inc.   1.800.457.3801   831.457.3800   fax 831.457.3801   **Europe**   +00800 4573 8000   49 6221 4503 0   ***www.scbt.com***