

# PRL-3 (D-18): sc-21581

## BACKGROUND

Protein tyrosine phosphatases (PTPs) play a role in regulating diverse cellular processes. They form a small class of prenylated protein phosphatases called PRL proteins characterized by a C-terminal consensus sequence for prenylation. PRL-1, also designated Protein tyrosine phosphatase type IVA protein 1 (PTP4A1), is a unique nuclear PTP that is induced in regenerating liver and mitogen-stimulated cells. It is primarily expressed in spleen, bone marrow, thymus, lymph nodes, T lymphocytes and tonsil and is overexpressed in tumor cell lines. PRL-2 (protein tyrosine phosphatase type IVA protein 2, or PTP4A2) is ubiquitously expressed with highest levels in heart, skeletal muscle and thymus but is also overexpressed in prostate tumor tissue. PRL-2 is stimulates progression from G<sub>1</sub> into S phase during mitosis and promotes tumors. PRL-3, also known as protein tyrosine phosphatase type IVA, member 3 (PTP4A3) is expressed in heart and skeletal muscle as well as epithelial cells of the small intestine and associates with the cell plasma membrane. Over expression of PRL-3 inhibits angiotensin-II induced cell calcium mobilization and promotes cell growth. PRL-3 is important for colorectal cancer metastasis and may serve as a new therapeutic target for this condition.

## CHROMOSOMAL LOCATION

Genetic locus: PTP4A3 (human) mapping to 8q24.3; Ptp4a3 (mouse) mapping to 15 D3.

## SOURCE

PRL-3 (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PRL-3 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-21581 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PRL-3 (D-18) is recommended for detection of PRL-3 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PRL-3 (D-18) is also recommended for detection of PRL-3 isoforms 1 and 2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for PRL-3 siRNA (h): sc-39156, PRL-3 siRNA (m): sc-39157, PRL-3 shRNA Plasmid (h): sc-39156-SH, PRL-3 shRNA Plasmid (m): sc-39157-SH, PRL-3 shRNA (h) Lentiviral Particles: sc-39156-V and PRL-3 shRNA (m) Lentiviral Particles: sc-39157-V.

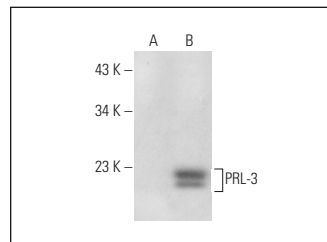
Molecular Weight of PRL-3: 20 kDa.

Positive Controls: PRL-3 (m): 293T Lysate: sc-122777.

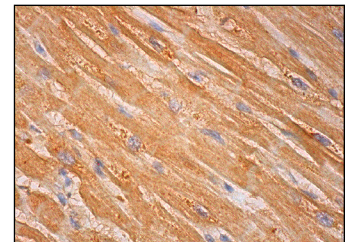
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



PRL-3 (D-18): sc-21581. Western blot analysis of PRL-3 expression in non-transfected: sc-117752 (A) and mouse PRL-3 transfected: sc-122777 (B) 293T whole cell lysates.



PRL-3 (D-18): sc-21581. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

- Ruan, F., et al. 2010. Phosphatase of regenerating liver-3: a novel and promising marker in human endometriosis. *Fertil. Steril.* 94: 1980-1984.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **PRL-3 (111AT714): sc-130245**, our highly recommended monoclonal alternative to PRL-3 (D-18).