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. PPR-2 stimulates progression from G1 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 AngiotensinII 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.

REFERENCE


CHROMOSOMAL LOCATION

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

SOURCE

PRL-3 (318) is a mouse monoclonal antibody raised against recombinant PRL-3 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PRL-3 (318) is available conjugated to agarose (sc-130355 AC), 500 µg/0.25 ml agarose in 1 ml, for 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); non cross-reactive with PRL-1 or PRL-2.

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: mouse brain extract: sc-2253.

DATA

PRL-3 (318): sc-130355. Western blot analysis of PRL-3 expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS


RESEARCH USE

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