

PiT1/2 (SY-12): sc-101298

BACKGROUND

The SLC20 family transport proteins were originally identified as retroviral receptors Glvr-1 and Ram-1, but are now designated sodium-dependent phosphate transporters 1 and 2 (PiT1 and PiT2). The PiT proteins function as sodium-phosphate cotransporters and are widely expressed, with high expression in bone, kidney and intestine. Both PiT1 and PiT2 are expressed on polarized epithelial cell membranes where they play a role in cellular phosphate homeostasis. PiT2 is a human receptor for amphotropic murine leukemia virus (A-MuLV). A-MuLV infects a variety of mammalian cell lines, including humans, making it a useful tool in gene transfer technology and as a vector for gene therapy. Retroviral vector systems are used in gene therapy that are designed to infect cells expressing PiT1 or PiT2.

REFERENCES

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3. Böttger, P. and Pedersen, L. 2002. Two highly conserved glutamate residues critical for type III sodium-dependent phosphate transport revealed by uncoupling transport function from retroviral receptor function. *J. Biol. Chem.* 277: 42741-42747.
4. Böttger, P. and Pedersen, L. 2004. The central half of PiT2 is not required for its function as a retroviral receptor. *J. Virol.* 78: 9564-9567.
5. Beer, C., et al. 2005. Caveola-dependent endocytic entry of amphotropic murine leukemia virus. *J. Virol.* 79: 10776-10787.
6. Homann, V., et al. 2005. Sodium-phosphate cotransporter in human salivary glands: molecular evidence for the involvement of NPT2b in acinar phosphate secretion and ductal phosphate reabsorption. *Arch. Oral Biol.* 50: 759-768.
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CHROMOSOMAL LOCATION

Genetic locus: SLC20A1 (human) mapping to 2q13, SLC20A2 (human) mapping to 8p11.21.

SOURCE

PiT1/2 (SY-12) is a mouse monoclonal antibody raised against recombinant PiT1/2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PiT1/2 (SY-12) is recommended for detection of PiT1 and PiT2 of human 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

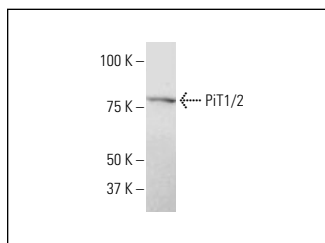
Molecular Weight of PiT1/2: 70 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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).

DATA



PiT1/2 (SY-12): sc-101298. Western blot analysis of PiT1/2 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ma, X.X., et al. 2017. PiT2 regulates neuronal outgrowth through interaction with microtubule-associated protein 1B. *Sci. Rep.* 7: 17850.

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 for detailed protocols and support products.