

PiT2 (B-4): sc-377326



The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: SLC20A2 (human) mapping to 8p11.21; Slc20a2 (mouse) mapping to 8 A2.

SOURCE

PiT2 (B-4) is a mouse monoclonal antibody raised against amino acids 241-340 mapping within an internal region of PiT2 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.

PiT2 (B-4) is available conjugated to agarose (sc-377326 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377326 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377326 PE), fluorescein (sc-377326 FITC), Alexa Fluor® 488 (sc-377326 AF488), Alexa Fluor® 546 (sc-377326 AF546), Alexa Fluor® 594 (sc-377326 AF594) or Alexa Fluor® 647 (sc-377326 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377326 AF680) or Alexa Fluor® 790 (sc-377326 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PiT2 (B-4) is recommended for detection of PiT2 of mouse, rat and 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), 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).

Suitable for use as control antibody for PiT2 siRNA (h): sc-61361, PiT2 siRNA (m): sc-61362, PiT2 shRNA Plasmid (h): sc-61361-SH, PiT2 shRNA Plasmid (m): sc-61362-SH, PiT2 shRNA (h) Lentiviral Particles: sc-61361-V and PiT2 shRNA (m) Lentiviral Particles: sc-61362-V.

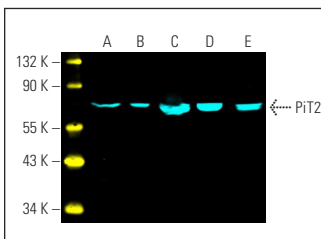
Molecular Weight of PiT2: 73 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, PC-12 cell lysate: sc-2250 or Caki-1 cell lysate: sc-2224.

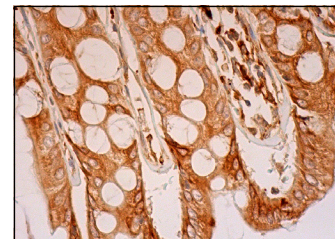
STORAGE

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

DATA



PiT2 (B-4) Alexa Fluor® 647: sc-377326 AF647. Direct fluorescent western blot analysis of PiT2 expression in c4 (A), Caki-1 (B), HEK293T (C), PC-12 (D) and TT (E) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 488: sc-516790.



PiT2 (B-4): sc-377326. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing membrane and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Wallingford, M.C., et al. 2016. Slc20a2 deficiency results in fetal growth restriction and placental calcification associated with thickened basement membranes and novel CD13 and laminin α 1 expressing cells. *Reprod. Biol.* 16: 13-26.
2. Masuda, M., et al. 2016. Activating transcription factor-4 promotes mineralization in vascular smooth muscle cells. *JCI Insight* 1: e88646.
3. Paiva, D.P., et al. 2017. MiR-9-5p down-regulates PiT2, but not PiT1 in human embryonic kidney 293 cells. *J. Mol. Neurosci.* 62: 28-33.
4. Pastor-Arroyo, E.M., et al. 2020. Intestinal epithelial ablation of Pit-2/Slc20a2 in mice leads to sustained elevation of vitamin D₃ upon dietary restriction of phosphate. *Acta Physiol.* 230: e13526.
5. Cheret, C., et al. 2021. Vesicular glutamate transporters (SLCA17 A6, 7, 8) control synaptic phosphate levels. *Cell Rep.* 34: 108623.
6. Bezerra, D.P., et al. 2021. MiR-9-5p regulates genes linked to cerebral calcification in the osteogenic differentiation model and induces generalized alteration in the ion channels. *J. Mol. Neurosci.* 71: 1897-1905.
7. Boller, L.A., et al. 2021. Effects of nanocrystalline hydroxyapatite concentration and skeletal site on bone and cartilage formation in rats. *Acta Biomater.* 130: 485-496.

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.