

# NPT1 (N-12): sc-46569

## BACKGROUND

NPT1, also called sodium-dependent phosphate transport protein, belongs to the organic anion transporter family, SLC17A. It is mainly expressed in the kidney transporting small organic anions such as PAH (para-aminohippurate), but it is also found in the liver and brain. NPT1 localizes to the apical membrane of renal proximal tubular cells and functions as a voltage driven organic anion/Cl-exchanger. It also plays a role in maintaining phosphate homeostasis. The expression of NPT1 is transcriptionally regulated by HNF-1 $\alpha$  and HNF-3 $\beta$ . Indomethacin and salicylate inhibit NPT1-mediated PAH transport.

## REFERENCES

- Chong, S.S., et al. 1993. Molecular cloning of the cDNA encoding a human renal sodium phosphate transport protein and its assignment to chromosome 6p21.3-p23. *Genomics* 18: 355-359.
- Chong, S.S., et al. 1995. Cloning, genetic mapping, and expression analysis of a mouse renal sodium-dependent phosphate cotransporter. *Am. J. Physiol.* 268: F1038-F1045.
- Kos, C.H., et al. 1996. Comparative mapping of Na<sup>+</sup>-phosphate cotransporter genes, NPT1 and NPT2, in human and rabbit. *Cytogenet. Cell Genet.* 75: 22-24.
- Uchino, H., et al. 2000. p-aminohippuric acid transport at renal apical membrane mediated by human inorganic phosphate transporter NPT1. *Biochem. Biophys. Res. Commun.* 270: 254-259.
- Soumounou, Y., et al. 2001. Murine and human type I Na-phosphate cotransporter genes: structure and promoter activity. *Am. J. Physiol. Renal Physiol.* 281: F1082-F1091.
- SWISS-PROT/TrEMBL (Q14916). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

## CHROMOSOMAL LOCATION

Genetic locus: SLC17A1 (human) mapping to 6p22.2.

## SOURCE

NPT1 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of NPT1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46569 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

NPT1 (N-12) is recommended for detection of NPT1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

NPT1 (N-12) is also recommended for detection of NPT1 in additional species, including equine and bovine.

Suitable for use as control antibody for NPT1 siRNA (h): sc-40139, NPT1 shRNA Plasmid (h): sc-40139-SH and NPT1 shRNA (h) Lentiviral Particles: sc-40139-V.

Molecular Weight of NPT1: 51 kDa.

## 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) 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.

## SELECT PRODUCT CITATIONS

- Scott, A., et al. 2008. VGLuT2 expression in painful Achilles and patellar tendinosis: evidence of local glutamate release by tenocytes. *J. Orthop. Res.* 26: 685-692.

## PROTOCOLS

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



Try **NPT1 (4B4D1): sc-517230**, our highly recommended monoclonal alternative to NPT1 (N-12).