SANTA CRUZ BIOTECHNOLOGY, INC.

NPT1 (M-19): sc-25242

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Renal tubular reabsorption of phosphate is critical to the maintenance of phosphate homeostasis in mammals. The brush-border membrane Na-P(i) cotransport systems in proximal tubules play a major role in this process. Human NPT1, which is present in renal apical membrane, is one such cotransporter that mediates the transport of PAH. NPT1 is important for the resorption of phosphate by the kidney and may be involved in actively transporting phosphate into cells via Na^+ cotransport in the renal brush border membrane. NPT1 is an integral membrane protein expressed in kidney cortex, liver and brain, but not in other tissues. The gene encoding human NPT1 maps to chromosome 6p22.2, while the gene encoding human NPT2 maps to chromosome 5q35.

REFERENCES

1. 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.
2. Chong, S.S., et al. 1995. Cloning, genetic mapping, and expression analysis of a mouse renal sodium-dependent phosphate cotransporter. Am. J. Physiol. 268: F1038-1045.
3. Kos, C.H., et al. 1996. Comparative mapping of Na^+-phosphate cotransporter genes, NPT1 and NPT2, in human and rabbit. Cytogenet. Cell Genet. 75: 22-24.
4. 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.
5. Soumounou, Y., et al. 2001. Murine and human type I Na-phosphate cotransporter genes: structure and promoter activity. Am. J. Physiol. Renal. Physiol. 281: 1082-1091.

CHROMOSOMAL LOCATION

Genetic locus: Slc17a1 (mouse) mapping to 13 A3.1.

SOURCE

NPT1 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of NPT1 of mouse 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-25242 P, (100 µg 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 (M-19) is recommended for detection of NPT1 of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

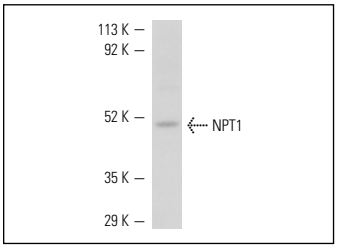
Molecular Weight of NPT1: 51 kDa.

Positive Controls: rat skeletal muscle extract.

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.

DATA



NPT1 (M-19): sc-25242. Western blot analysis of NPT1 expression in rat skeletal muscle tissue extract.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.