

NPT2 (V-20): sc-33928

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. The renal Na^+/P_i cotransporter NPT2 is expressed in the brush border membrane (BBM) of proximal tubular cells. NPT2 gene expression is crucial for PTH effects on renal P_i handling. However, renal expression of the sodium/phosphate cotransporter gene, NPT2, is not required for regulation of renal 1α -hydroxylase by phosphate. NPT2 is an integral membrane protein expressed in kidney and lung. The gene encoding human NPT1 maps to chromosome 6q21.3-p23, while the gene encoding human NPT2 maps to chromosome 5q35.

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: F1038-1045.
- 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.
- Hoag, H.M., et al. 1999. Effects of NPT2 gene ablation and low-phosphate diet on renal Na^+ /phosphate cotransport and cotransporter gene expression. *J. Clin. Invest.* 104: 679-686.
- Zhao, N., et al. 2000. NPT2 gene disruption confers resistance to the inhibitory action of parathyroid hormone on renal sodium-phosphate cotransport. *Endocrinology* 141: 2159-2165.
- Soumounou, Y., et al. 2001. Murine and human type I Na-phosphate cotransporter genes: structure and promoter activity. *Am. J. Physiol. Renal Physiol.* 281: F1082-1091.

CHROMOSOMAL LOCATION

Genetic locus: SLC34A1 (human) mapping to 5q35; Slc34a1 (mouse) mapping to 13 B.

SOURCE

NPT2 (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of NPT2 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-33928 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

NPT2 (V-20) is recommended for detection of NPT2 of mouse, rat and 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).

Suitable for use as control antibody for NPT2 siRNA (h): sc-40141, NPT2 siRNA (m): sc-45203, NPT2 shRNA Plasmid (h): sc-40141-SH, NPT2 shRNA Plasmid (m): sc-45203-SH, NPT2 shRNA (h) Lentiviral Particles: sc-40141-V and NPT2 shRNA (m) Lentiviral Particles: sc-45203-V.

Molecular Weight of NPT2: 83 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

- Boulberdaa, M., et al. 2011. Genetic inactivation of prokineticin receptor-1 leads to heart and kidney disorders. *Arterioscler. Thromb. Vasc. Biol.* 31: 842-850.

STORAGE

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

PROTOCOLS

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