SANTA CRUZ BIOTECHNOLOGY, INC.

NPT2 (G-18): sc-33925

BACKGROUND

Renal tubular reabsorption of phosphate is critical to the maintenance of phosphate homeostasis in mammals. The brush-border membrane Na^+/Pi cotransport systems in proximal tubules play a major role in this process. The renal Na^+/Pi cotransporter NPT2 is expressed in the brush border membrane (BBM) of proximal tubular cells. NPT2 gene expression is crucial for PTH effects on renal Pi handling. However, renal expression of the sodium/phosphate cotransporter gene, NPT2, is not required for regulation of renal 1 a-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 5q35.3.

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-F1045.
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. 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.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: SLC34A1 (human) mapping to 5q35.3; Slc34a1 (mouse) mapping to 13 B1.

SOURCE

NPT2 (G-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of NPT2 of human 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-33925 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.

APPLICATIONS

NPT2 (G-18) is recommended for detection of NPT2 of human and, to a lesser extent, mouse and rat 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).

NPT2 (G-18) is also recommended for detection of NPT2 in additional species, including equine, canine and porcine.

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.

RESEARCH USE

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

PROTOCOLS

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