

THP (Q-20): sc-19551

BACKGROUND

Tamm-Horsfall glycoprotein (also referred to as uromodulin or THP) is the most abundant protein found in normal urine. THP is expressed on the luminal surface of the membrane with the glycosyl phosphatidylinositol (GPI) anchor and excreted in urine at a rate of 50–100 mg per day. THP, uropontin and nephrocalcin are the three known urinary glycoproteins that affect the formation of calcium-containing kidney stones. THP is synthesized by kidney epithelial cells and is believed to play important and diverse roles in the urinary system, including renal water balance, immunosuppression, urinary stone formation and inhibition of bacterial adhesion. THP is nontoxic and blocks early events required for normal T-cell proliferation *in vitro*. The gene which encodes THP and is a candidate gene for nephrolithiasis maps to human chromosome 16p13.11.

REFERENCES

1. Tamm, I. and Horsfall, F.L., Jr. 1952. A mucoprotein derived from human urine which reacts with influenza, mumps, and Newcastle disease viruses. *J. Exp. Med.* 95: 71-97.
2. Muchmore, A.V. and Decker, J.M. 1985. Uromodulin: a unique 85-kilodalton immunosuppressive glycoprotein isolated from urine of pregnant women. *Science* 229: 479-481.
3. Pook, M.A., et al. 1993. Localization of the Tamm-Horsfall glyco-protein (uromodulin) gene to chromosome 16p12.3-16p13.11. *Ann. Hum. Genet.* 57: 285-290.
4. Jeanpierre, C., et al. 1993. Chromosomal assignment of the uromodulin gene (UMOD) to 16p13.11. *Cytogenet. Cell Genet.* 62: 185-187.
5. Fukuoka, S. and Kobayashi, K. 2001. Analysis of the C-terminal structure of urinary Tamm-Horsfall protein reveals that the release of the glycosyl phosphatidylinositol-anchored counterpart from the kidney occurs by phenylalanine-specific proteolysis. *Biochem. Biophys. Res. Commun.* 289: 1044-1048.
6. Zhu, X., et al. 2002. Isolation of mouse THP gene promoter and demonstration of its kidney-specific activity in transgenic mice. *Am. J. Physiol. Renal Physiol.* 282: 608-617.

CHROMOSOMAL LOCATION

Genetic locus: UMOD (human) mapping to 16p12.3.

SOURCE

THP (Q-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of THP 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-19551 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

THP (Q-20) is recommended for detection of THP 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).

Suitable for use as control antibody for THP siRNA (h): sc-41064, THP shRNA Plasmid (h): sc-41064-SH and THP shRNA (h) Lentiviral Particles: sc-41064-V.

Molecular Weight of THP: 85 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.

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.

PROTOCOLS

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



Try **THP (B-2): sc-271022**, our highly recommended monoclonal alternative to THP (Q-20).