

THP (B-5): sc-271023

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 is a candidate gene for nephrolithiasis and 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: F608-F617.

CHROMOSOMAL LOCATION

Genetic locus: Umod (mouse) mapping to 7 F2.

SOURCE

THP (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 360-395 within an internal region of THP of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271023 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

THP (B-5) is recommended for detection of THP of mouse and rat origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for THP siRNA (m): sc-41065, THP shRNA Plasmid (m): sc-41065-SH and THP shRNA (m) Lentiviral Particles: sc-41065-V.

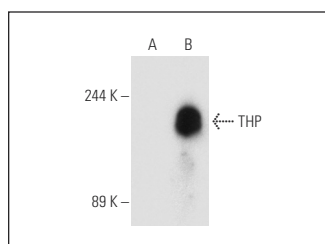
Molecular Weight of THP: 85 kDa.

Positive Controls: THP (m): 293T Lysate: sc-127653.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



THP (B-5): sc-271023. Western blot analysis of THP expression in non-transfected: sc-117752 (A) and mouse THP transfected: sc-127653 (B) 293T whole cell lysates.

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 for detailed protocols and support products.