



PHTF1 (H-79): sc-98418

BACKGROUND

PHTF1 (putative homeodomain transcription factor 1), also known as PHTF, is a potential transcription regulator. It is a ubiquitously expressed integral, multipass membrane protein with predominant expression in testis. PHTF1 is associated with the ER (endoplasmic reticulum) and contains one bHLH (basic helix-loop-helix) domain. It is present in the cell during meiosis and spermiogenesis but, by the end of spermiogenesis, is released from the mature cell within the residual bodies. This implies that PHTF1 may play a role in the spermatozoa maturation process. In addition, PHTF1 is believed to interact with FEM1B and may be responsible for recruiting FEM1B to the surface of the ER membrane. This suggests that PHTF1 acts as a sequestering or anchoring protein for FEM1B. Two PHTF1 isoforms exist due to alternate splicing events. Isoform 2 is the shorter form and lacks the amino acid residues 648 to 762.

REFERENCES

1. Manuel, A., Beaupain, D., Romeo, P.H. and Raich, N. 2000. Molecular characterization of a novel gene family (PHTF) conserved from *Drosophila* to mammals. *Genomics* 64: 216-220.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604950. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Oyhenart, J., Le Goffic, R., Samson, M., Jégou, B. and Raich, N. 2003. PHTF1 is an integral membrane protein localized in an endoplasmic reticulum domain in maturing male germ cells. *Biol. Reprod.* 68: 1044-1053.
4. Oyhenart, J., Dacheux, J.L., Dacheux, F., Jégou, B. and Raich, N. 2004. Expression, regulation, and immunolocalization of putative homeodomain transcription factor 1 (PHTF1) in rodent epididymis: evidence for a novel form resulting from proteolytic cleavage. *Biol. Reprod.* 72: 50-57.
5. Oyhenart, J., Benichou, S. and Raich, N. 2005. Putative homeodomain transcription factor 1 interacts with the feminization factor homolog fem1b in male germ cells. *Biol. Reprod.* 72: 780-787.
6. Natrajan, R., Williams, R.D., Grigoriadis, A., Mackay, A., Fenwick, K., Ashworth, A., Dome, J.S., Grundy, P.E., Pritchard-Jones, K. and Jones, C. 2007. Delineation of a 1Mb breakpoint region at 1p13 in Wilms tumors by fine-tiling oligonucleotide array CGH. *Genes Chromosomes Cancer* 46: 607-615.

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.

CHROMOSOMAL LOCATION

Genetic locus: PHTF1 (human) mapping to 1p13.2; Phtf1 (mouse) mapping to 3 F2.2.

SOURCE

PHTF1 (H-79) is a rabbit polyclonal antibody raised against amino acids 474-552 mapping within an internal region of PHTF1 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-98418 X, 200 µg/0.1 ml.

APPLICATIONS

PHTF1 (H-79) is recommended for detection of PHTF1 of mouse, rat and human 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).

Suitable for use as control antibody for PHTF1 siRNA (h): sc-78940, PHTF1 siRNA (m): sc-106409, PHTF1 shRNA Plasmid (h): sc-78940-SH, PHTF1 shRNA Plasmid (m): sc-106409-SH, PHTF1 shRNA (h) Lentiviral Particles: sc-78940-V and PHTF1 shRNA (m) Lentiviral Particles: sc-106409-V.

PHTF1 (H-79) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.