

## PC-TP (Y-20): sc-23675

### BACKGROUND

Eukaryotic cells contain phospholipid transfer proteins that act as carriers of phospholipids between membranes. In mammalian tissues three transfer proteins with different specificities have been identified: the phosphatidylcholine transfer protein (PC-TP, also known as StARD2), the phosphatidylinositol transfer protein (PI-TP) and the non-specific lipid transfer protein (nsL-TP) that transfers all common diacyl-phospholipids and cholesterol. PC-TP is a cytosolic protein first purified from bovine and rat liver that catalyzes intermembrane transfer of PC. The highest expression of PC-TP is found in liver, placenta, testis, kidney and heart, and lowest levels are found in brain and lung tissues. PC-TP knockout mice showed no defects in the secretion of PC into bile or lung surfactant, and the lipid content and composition of bile and surfactant was normal. The authors concluded that PC-TP does not play a major role in transporting PC from the endoplasmic reticulum, where it is synthesized, to the hepatocyte canalicular membrane. The gene which encodes PC-TP maps to human chromosome 17q22.

### REFERENCES

1. Wirtz, K.W. 1991. Phospholipid transfer proteins: from lipid monolayers to cells. *Klin. Wochenschr.* 69: 105-111.
2. Cohen, D.E., Green, R.M., Wu, M.K. and Beier, D.R. 1999. Cloning, tissue-specific expression, gene structure and chromosomal localization of human phosphatidylcholine transfer protein. *Biochim. Biophys. Acta* 1447: 265-270.
3. van Helvoort, A., de Brouwer, A., Ottenhoff, R., Brouwers, J.F., Wijnholds, J., Beijnen, J.H., Rijnveld, A., van der Poll, T., van der Valk, M.A., Majoor, D., Voorhout, W., Wirtz, K.W., Elferink, R.P. and Borst, P. 1999. Mice without phosphatidylcholine transfer protein have no defects in the secretion of phosphatidylcholine into bile or into lung airspaces. *Proc. Natl. Acad. Sci. USA* 96: 11501-11506.
4. de Brouwer, A.P., Versluis, C., Westerman, J., Roelofsen, B., Heck, A.J. and Wirtz, K.W. 2002. Determination of the stability of the noncovalent phospholipid transfer protein-lipid complex by electrospray time-of-flight mass spectrometry. *Biochemistry* 41: 8013-8018.
5. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606055. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

Genetic locus: PCTP (human mapping to 17q22; Pctp (mouse) mapping to 11 C.

### SOURCE

PC-TP (Y-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PC-TP 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-23675 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PC-TP (Y-20) is recommended for detection of PC-TP 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).

PC-TP (Y-20) is also recommended for detection of PC-TP in additional species, including canine.

Suitable for use as control antibody for PC-TP siRNA (h): sc-41363, PC-TP siRNA (m): sc-41364, PC-TP shRNA Plasmid (h): sc-41363-SH, PC-TP shRNA Plasmid (m): sc-41364-SH, PC-TP shRNA (h) Lentiviral Particles: sc-41363-V and PC-TP shRNA (m) Lentiviral Particles: sc-41364-V.

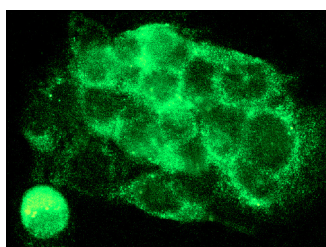
Molecular Weight of PC-TP: 25 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, JAR cell lysate: sc-2276 or K-562 whole cell lysate: sc-2203.

### 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

### DATA



PC-TP (Y-20): sc-23675. Immunofluorescence staining of methanol-fixed Hep G2 cells showing cytoplasmic localization.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.