

# CHPT1 (F-7): sc-515577

## BACKGROUND

CHPT1 (cholinephosphotransferase 1), also known as AAPT1-like protein and Diacylglycerol cholinephosphotransferase 1, is a 406 amino acid multi-pass membrane protein that is localized to the Golgi apparatus. By catalyzing the phosphatidylcholine biosynthesis from CDP-choline, it plays an essential role in the formation and maintenance of vesicular membranes. CHPT1 is most abundant in testis, as well as small intestine, heart, colon, spleen and prostate. Expression of CHPT1 is increased in cancerous breast cells as compared to normal breast cell lines and it has been determined that the CHPT1 gene exhibits mutations within the cancerous cells. Interestingly, exposure to mustard gas significantly decreases CHPT1 gene expression and activity, an event that may play an important role in the development of acute respiratory distress syndrome (ARDS). There are two isoforms of CHPT1 that are produced as a result of alternative splicing events.

## REFERENCES

1. Toback, F.G. 1984. Phosphatidylcholine metabolism during renal growth and regeneration. *Am. J. Physiol.* 246: F249-F259.
2. McMaster, C.R. and Bell, R.M. 1997. CDP-choline:1,2-diacylglycerol cholinephosphotransferase. *Biochim. Biophys. Acta* 1348: 100-110.
3. Henneberry, A.L. and McMaster, C.R. 1999. Cloning and expression of a human choline/ethanolaminephosphotransferase: synthesis of phosphatidylcholine and phosphatidylethanolamine. *Biochem. J.* 339: 291-298.

## CHROMOSOMAL LOCATION

Genetic locus: CHPT1 (human) mapping to 12q23.2; Chpt1 (mouse) mapping to 10 C1.

## SOURCE

CHPT1 (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 17-33 near the N-terminus of CHPT1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CHPT1 (F-7) is available conjugated to agarose (sc-515577 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515577 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515577 PE), fluorescein (sc-515577 FITC), Alexa Fluor® 488 (sc-515577 AF488), Alexa Fluor® 546 (sc-515577 AF546), Alexa Fluor® 594 (sc-515577 AF594) or Alexa Fluor® 647 (sc-515577 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515577 AF680) or Alexa Fluor® 790 (sc-515577 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515577 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

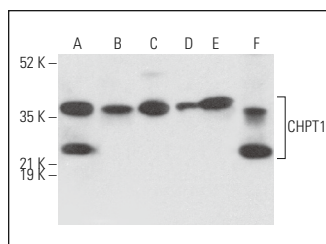
CHPT1 (F-7) is recommended for detection of CHPT1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CHPT1 siRNA (h): sc-95799, CHPT1 siRNA (m): sc-142334, CHPT1 shRNA Plasmid (h): sc-95799-SH, CHPT1 shRNA Plasmid (m): sc-142334-SH, CHPT1 shRNA (h) Lentiviral Particles: sc-95799-V and CHPT1 shRNA (m) Lentiviral Particles: sc-142334-V.

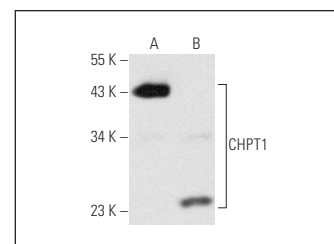
Molecular Weight of CHPT1 isoform 1/2: 45/24 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, Hs 181 Tes whole cell lysate: sc-364779 or F9 cell lysate: sc-2245.

## DATA



CHPT1 (F-7): sc-515577. Western blot analysis of CHPT1 expression in F9 (A), DU 145 (B), PC-3 (C), AT3B-1 (D) and HeLa (E) whole cell lysates and mouse testis tissue extract (F).



CHPT1 (F-7): sc-515577. Western blot analysis of CHPT1 expression in Hs 181 Tes (A) and F9 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Zhu, S., et al. 2018. Influence of a dietary vegetable oil blend on serum lipid profiles in large yellow croaker (*Larimichthys crocea*). *J. Agric. Food Chem.* 66: 9097-9106.
2. Softysik, K., et al. 2019. Nuclear lipid droplets derive from a lipoprotein precursor and regulate phosphatidylcholine synthesis. *Nat. Commun.* 10: 473.
3. Dai, Z., et al. 2019. MicroRNA-22 regulates thyroid cell growth and lipid accumulation via IL6R. *Front. Biosci.* 24: 1350-1362.
4. Ogasawara, Y., et al. 2020. Long-term autophagy is sustained by activation of CCTβ3 on lipid droplets. *Nat. Commun.* 11: 4480.
5. Fu, G., et al. 2021. Metabolic control of TFH cells and humoral immunity by phosphatidylethanolamine. *Nature* 595: 724-729.

## RESEARCH USE

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

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