

Phosphatidylcholine Assay Kit

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CATALOG #
AAA11411

PRODUCT SYNONYMS

Phosphatidylcholine; Phosphatidylcholine Assay Kit; Phosphatidylcholine assay kit

PRODUCT SPECIFICATIONS

Samples	Serum, plasma, or tissue samples
Preparation and Storage	Upon receipt, store the Phosphatidylcholine Standard, Fluorescence Probe, HRP, and Choline Oxidase at -20 degree C. The Fluorescence Probe is light sensitive and must be stored accordingly. Avoid multiple freeze/thaw cycles. Store the Phospholipase D at -80 degree C. Store the remaining kit components at 4 degree C.

IMAGES

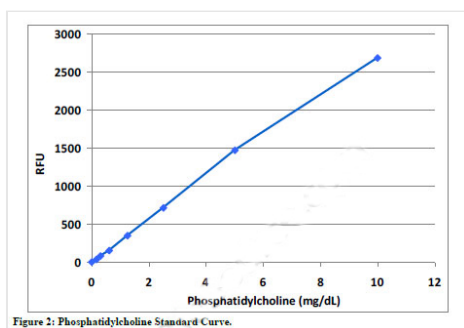


Figure 2: Phosphatidylcholine Standard Curve.

Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for Phosphatidylcholine assay kit	Principle of the Assay: Phosphatidylcholine Assay Kit measures the phosphatidylcholine present within serum, plasma, or tissue samples. The assay is based on the enzyme driven reaction that will detect phosphatidylcholine via phosphatidylcholine-specific phospholipase D enzyme and choline oxidase. First, phospholipase D hydrolyzes phosphatidylcholine into choline and phosphatidic acid. Choline is then oxidized by choline oxidase to produce hydrogen peroxide. The hydrogen peroxide is then detected with a highly specific fluorescence probe. Horseradish peroxidase catalyzes the reaction between the probe and hydrogen peroxide, which bind in a 1:1 ratio. Samples are compared to a known concentration of phosphatidylcholine standard within the 96-well microtiter plate format. Samples and standards are incubated for 60 minutes and then read with a standard 96-well fluorometric plate reader (Figure 1).!!Background/Introduction: Phospholipids are important structural lipids that are the major component of cell membranes and lipid bilayers. Phospholipids contain a hydrophilic head and a hydrophobic tail which give the molecules their unique characteristics. Most phospholipids contain one diglyceride, a phosphate group, and one choline group. Phosphatidylcholine is the foremost membrane phospholipid in eukaryotic cell membranes and is present in every cell in the body. It serves as a pool for many lipid messengers and is a source for bioactive lipids such as phosphatidic acid, diacylglycerol, lysophosphatidylcholine, and others. Regulation of phosphatidylcholine biosynthesis and metabolism is important to membrane structure maintenance and function. Phosphatidylcholine is the chief source of choline in the body, which itself and its derivative compounds form cell signaling molecules such as acetylcholine, platelet activating factor and sphingophosphorylcholine. As one of the most prevalent phospholipids in lipoproteins, phosphatidylcholine exerts considerable influence on lipid homeostasis. Since phosphatidylcholine comprises about 70% of the total phospholipids in plasma lipoproteins, it is very important to lipid homeostasis. Determining circulatory levels of phospholipids and lipoproteins is critical to the identification of lipid transport disorders. Fatty acid residues from phosphatidylcholine are transferred via the enzyme lecithin cholesterol acyltransferase (LCAT) to cholesterol to create cholesterol esters. High levels of cholesterol and cholesterol esters (hypercholesterolemia) have been associated with cardiovascular disease such as atherosclerosis and heart disease. In addition, phosphatidylcholine synthesis is altered in many neurological, cardiovascular, and pulmonary disease states. Phosphatidylcholine Assay Kit is a simple fluorometric assay that measures the amount of phosphatidylcholine present in plasma or serum, tissue homogenates, or cell suspensions in a 96-well microtiter plate format. Each kit provides sufficient reagents to perform up to 96 assays, including blanks, phosphatidylcholine standards and unknown samples. Sample phosphatidylcholine concentrations are determined by comparison with a known phosphatidylcholine standard.
Product Categories/Family for Phosphatidylcholine assay kit	Metabolism Research; Lipoprotein Metabolism; Phospholipid Assays
References	1. Chapman, D., et al. (1967) Chem. Phys. Lipids 1: 445-475. 2. Hojjati, M.R., et al. (2006) J. Lipid Res. 47(3): 673-676. 3. Linsel-Nitchke, P., et al. (2005) Nature Reviews Drug Discovery 4: 193-205. 4. Ohta-Fukuyama, M. (1980) J. Biochem. 88: 197-203. 5. Phillips, G.B., et al. (1967) J. Lipid Res. 8: 676-681.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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 Online datasheet: <https://stage.aaabiotech.com/assay-kits/phosphatidylcholine/11411>