

Total Cholesterol Assay Kit

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CATALOG #
AAA44517

PRODUCT SYNONYMS

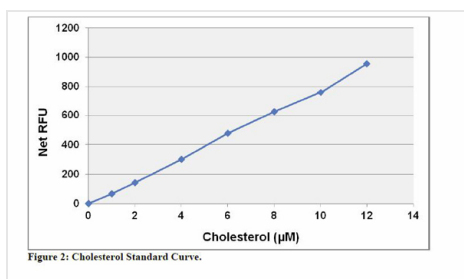
Total Cholesterol; Total Cholesterol Assay Kit; Total Cholesterol assay kit

PRODUCT SPECIFICATIONS

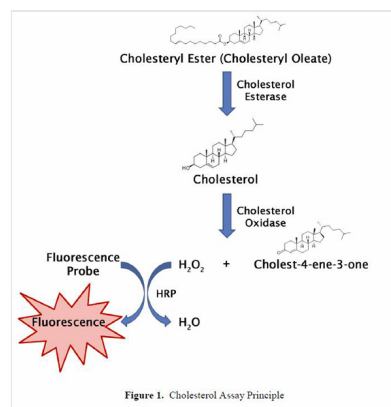
Preparation and Storage

Upon receipt, store the Cholesterol Standard, Fluorescence Probe, HRP, Cholesterol Oxidase, and Cholesterol Esterase at -20 degree C. The Fluorescence Probe is light sensitive and must be stored accordingly. Avoid multiple freeze/thaw cycles. Store the remaining kit components at 4 degree C.

IMAGES



Application Data



Application Data

ADDITIONAL INFORMATION

Related Product Information for Total Cholesterol assay kit	Principle of the Assay: The Total Cholesterol Assay Kit measures the total cholesterol within serum, plasma, lysate, or tissue samples. The assay is based on the enzyme driven reaction that quantifies both cholesterol esters and free cholesterol. Cholesterol esters are hydrolyzed via cholesterol esterase into cholesterol, which is then oxidized by cholesterol oxidase into the ketone cholest-4-en-3-one plus 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 cholesterol standard within the 96-well microtiter plate format. Samples and standards are incubated for 45 minutes and then read with a standard 96-well fluorometric plate reader (Figure 1). Background/Introduction: Cholesterol is a lipid sterol that is produced in and transported throughout the bloodstream in eukaryotes. Cholesterol is a critical compound used in the structure of cell membranes, hormones, and cell signaling. It is an essential component of animal cell structure in order to maintain permeability and fluidity. Cholesterol is a precursor for steroid hormones including the adrenal gland hormones cortisol and aldosterone, sex hormones progesterone, estrogens, and testosterone, and bile acids and vitamin D. Cholesterol is transported throughout the body within lipoproteins, which have cell-specific signals that direct the lipids they transport to certain tissues. For this reason, lipoproteins exist in different forms within the blood based on their density. These include chylomicrons, very-low density lipoproteins (VLDLs), low-density lipoproteins (LDLs), intermediate-density lipoproteins (IDLs), and high-density lipoproteins (HDLs). The higher the lipid content within a lipoprotein, the lower its density. Cholesterol exists within a lipoprotein as a free alcohol and as a fatty cholesteryl ester, which is the predominant form of cholesterol transport and storage. Determining circulatory levels of lipoproteins is critical to the identification of lipid transport disorders. High levels of cholesterol and cholesteryl esters (hypercholesterolemia) have been associated with cardiovascular disease such as atherosclerosis and heart disease, although lower levels (hypocholesterolemia) may be associated with cancer, depression, or respiratory diseases. The Total Cholesterol Assay Kit is a simple fluorometric assay that measures the amount of total cholesterol present in plasma, serum, tissue homogenates, or cell lysates in a 96-well microtiter plate format. The assay will detect total cholesterol (cholesteryl esters plus free cholesterol) in the presence of cholesterol esterase or only free cholesterol in the absence of the esterase enzyme. Each kit provides sufficient reagents to perform up to 192 assays, including blanks, cholesterol standards and unknown samples. Sample cholesterol concentrations are determined by comparison with a known cholesterol standard. Cholesteryl esters can be quantified by subtracting the free cholesterol values from the total cholesterol value.
Product Categories/Family for Total Cholesterol assay kit	Metabolism Research ; Lipoprotein Metabolism ; Cholesterol Assays ; Total Cholesterol Assay Kits
References	1. Admundson, D.M., et al. (1999) J. Biochem. Biophys. Meth. 38: 43-52. 2. Cholesterol and Triglyceride concentrations in Serum/Plasma Pairs. (1977) Clin. Chem. 23: 60-63. 3. Fossati, P., et al. (1982) Clin. Chem. 28: 2077-2080. 4. Ledwozyw, A., et al. (1986) Clin. Chim. Acta. 155: 275-284. 5. Lee, S.M. et al. (2008) Lipids 43: 419-429.

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/total-cholesterol/44517>