

HDL-Cholesterol Assay Kit

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CATALOG #
AAA11412

PRODUCT SYNONYMS

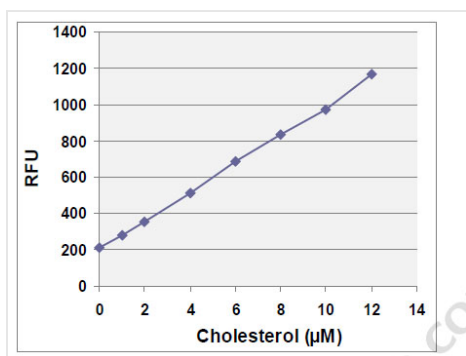
HDL-Cholesterol; HDL-Cholesterol Assay Kit; HDL-Cholesterol assay kit

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

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for HDL-Cholesterol assay kit	Principle of the Assay: HDL-Cholesterol Assay Kit measures the HDL cholesterol levels in serum or plasma samples. The kit provides reagents for separating HDL from other lipoproteins (LDL, VLDL, IDL and Chylomicron) before cholesterol assay. The cholesterol 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 and 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 2).
	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, as well as bile acids, and vitamin D. Cholesterol is transported around the body within lipoproteins, which are submicroscopic particles composed of lipid and protein held together by noncovalent forces. Their general structure is that of a putative spheroidal microemulsion formed from an outer layer of phospholipids, unesterified cholesterol, and proteins, with a core of neutral lipids, predominately cholesteryl esters and triacylglycerols (TAG). Lipoprotein's main function is to transport these lipids around the body in the blood. Lipoprotein particles have hydrophilic groups of phospholipids, cholesterol, and apoproteins directed outward. Such characteristics make them soluble in the salt water-based blood pool. Triglyceride-fats and cholesterol esters are carried internally, shielded from the water by the phospholipid monolayer and the apoproteins. The interaction of the proteins forming the surface of the particles with enzymes in the blood, with each other, and with specific proteins on the surfaces of cells determine whether triglycerides and cholesterol will be added to or removed from the lipoprotein transport particles. Lipoproteins 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), intermediate-density lipoproteins (IDLs), low-density lipoproteins (LDLs), and high-density lipoproteins (HDLs). The higher the lipid content in a lipoprotein, the less dense it is. 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. HDL and LDL cholesterol levels in the blood are important indicators of many disease states. High blood levels of LDLs are associated with health problems and cardiovascular disease. For this reason, LDL is often referred to as the "bad cholesterol." LDL particles that accumulate within arteries can form plaques over time, which can increase chances of a stroke, heart attack, or vascular disease. HDL particles are able to remove cholesterol from within arteries and transport it back to the liver for re-utilization or excretion, which is the main reason why the cholesterol carried within HDL particles is sometimes called "good cholesterol." Monitoring circulatory levels of different lipoproteins is critical to the identification of lipid transport disorders such as atherosclerosis. HDL-Cholesterol Assay Kit is a simple fluorometric assay that can measure the amounts of HDL cholesterol present in plasma or serum samples within a 96-well microtiter plate format. Each kit provides sufficient reagents to perform up to 96 assays, including blanks, cholesterol standards and unknown samples. Sample cholesterol concentrations are determined by comparison with a known cholesterol standard.
Product Categories/Family for HDL-Cholesterol assay kit	Metabolism Research ; Lipoprotein Metabolism ; Cholesterol Assays ; HDL-Cholesterol Assay Kit
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.