CREATIVE BIOMART®
Assay Kit

Lipase Activity Assay Kit

Product Information

Cat.No. Kit-0514

Product Overview

Lipases perform essential roles in the digestion, transportation, and processing of dietary lipids by controlling the clearance of triglyceride-rich lipoproteins from the circulation. Manipulating lipolysis has therapeutic potential in the metabolic disorders frequently associated with obesity. Lipase Activity Assay provides a fluorescence-based method for detecting lipase activity in plasma, serum, tissue homogenates, and cell culture samples. In the assay, lipase hydrolyzes arachidonoyl-1-thioglycerol to arachidonic acid and thioglycerol. Thioglycerol reacts with the thiol fluorometric detector to yield a highly fluorescent product which can be analyzed with an excitation wavelength of 380-390 nm and an emission wavelength of 510-520 nm.

Description

Lipases perform essential roles in the digestion, transportation, and processing of dietary lipids. Elevated plasma triglyceride levels have been implicated as a risk factor for coronary heart disease (CHD). An inverse relationship exists between blood triglyceride and HDL levels. Low HDL levels are often associated with high triglyceride levels in both men and women, and the combination of low HDL and high triglyceride levels is related to an increase risk of developing CHD. Plasma triglyceride levels are regulated by both synthesis and degradation of very low density lipoprotein (VLDL) and chylomicron particles. The clearance of triglyceride-rich lipoproteins from the circulation is controlled by the actions of lipoprotein lipase (LPL) and hepatic lipase (HL) and by the interlipoprotein exchange of triglyceride by cholesteryl ester transfer protein. LPL is the predominant triglyceride lipase and is responsible for hydrolyzing triglycerides in chylomicrons and VLDL, whereas HL is both a phospholipase and a triglyceride lipase and plays an important role in HDL metabolism and in the conversion of VLDL to LDL. LPL is mainly synthesized by adipocytes, skeletal muscle cells, and cardiac muscle cells, whereas HL is synthesized by the liver. The third well-characterized lipase from the triglyceride lipase family is endothelial lipase (EL). Endothelial lipase is synthesized mainly by vascular endothelial cells and to a lesser extent by macrophages and smooth muscle cells. In contrast to LPL and HL, EL is primarily a phospholipase A1 and hydrolyzes HDL-phospholipids at the sn-1 position.

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Usage

Please read these instructions carefully before beginning this assay. For research use only. Not for human or diagnostic use.

Storage

Stability: 6 months;Storage: -80°C;This kit will perform as specified if stored as directed in the Materials Supplied section and used before the expiration date indicated on the outside of the box.

Kit Components

For best results store this kit as supplied (-80°C), or remove components and store as stated below.Sodium Phosphate Assay Buffer: 1 vial/10 ml, -20°C;Fluorometric Thiol Detector: 1 vial/300 µl, -20°C;Lipase Substrate: 1 vial/1.2 ml, -80°C;Lipase Positive Control: 1 vial/50 µl, -80°C;Thioglycerol Standard: 1 vial/100 µl, -20°C;96-Well Solid Plate (white): 1 plate, Room temperature;96-Well Cover Sheet: 1 cover, Room temperature

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