

Product Data Sheet

K2090 Total Cholesterol and Cholesteryl Ester Colorimetric/Fluorometric Assay Kit

Kit Contents

Components	K2090-400 400 assays	Part Number
Assay Buffer II	1 x 25 mL	K2090-C-1
OxiRed Probe	1 x 0.2 mL	K2090-C-2
Cholesterol Standard	1 x 100 μ L	K2090-C-3
Cholesterol Esterase	1 x 1 Vial	K2090-C-4
Enzyme Mix I	1 x 1 Vial	K2090-C-5

Introduction

Cholesterol is a sterol molecule and is an important structural component of all animal cell membranes to maintain both membrane structural fluidity and integrity. Cholesterol also acts as a precursor for the biosynthesis of vitamin D, steroid hormones and bile acids. Cholesteryl ester is an ester of cholesterol and can be hydrolyzed by pancreatic enzymes and cholesterol esterase to produce cholesterol and free fatty acids.

The Total Cholesterol and Cholesteryl Ester Colorimetric/Fluorometric Assay Kit provides a sensitive, simple and convenient way for detection of free cholesterol, cholesteryl esters, or both in various biological fluids based on colorimetric and fluorometric method. Majority of the cholesterol in blood exists in the form of cholesteryl esters which can be hydrolyzed to free cholesterol and fatty acids by cholesterol esterase. Cholesterol is then oxidized by cholesterol oxidase to generate H_2O_2 which reacts with a sensitive cholesterol probe to yield color ($\lambda_{max} = 570$ nm) and fluorescence ($Ex/Em = 535/587$ nm). The assay can detect free cholesterol in the absence of cholesterol esterase or total cholesterol (cholesterol and cholesteryl esters) in the presence of cholesterol esterase in the reaction. Cholesteryl ester is determined by subtracting the value of free cholesterol from the total cholesterol.

Key facts

Detection method

Colorimetric

Sample types

Plasma, Suspension cells, Serum, Other biological fluids, Adherent cells

Assay type

Quantitative

Reactive species

Mammals

Storage

Shipped at conditions

Blue Ice

Appropriate short-term storage conditions

-20°C

Appropriate long-term storage conditions

-20°C

Storage information

-20°C

Notes

This Total Cholesterol & Cholesteryl Ester Colorimetric Assay Kit detects total cholesterol (cholesterol and cholesteryl esters) in the presence of cholesterol esterase or free cholesterol in the absence of cholesterol esterase. The cholesteryl ester content can be determined by subtracting the value of free cholesterol from the total (cholesterol + cholesteryl esters). The assay is quantitative, rapid, simple, and sensitive. The 384-well format allows for the screening of a large number of samples on a single plate in high throughput screening mode. The kit can detect 0.25 to 1.25 µg/well of cholesterol in various biological samples.

The Kit provides a simple method for sensitive quantification of free cholesterol, cholesteryl esters, or both by a colorimetric method in a high throughput format. The majority of the cholesterol in blood is in the form of cholesteryl esters which can be hydrolyzed to cholesterol by cholesterol esterase. The cholesterol is then oxidized yielding H_2O_2 which reacts with a sensitive cholesterol probe to produce a signal (OD 570 nm)

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEx BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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