CREATIVE BIOMART®
Assay Kit

Lipase Fluorometric Assay Kit

Product Information

Cat.No.

Kit-0516

Product Overview

Allows fast and easy measurement of lipase activity in vitro, in cell preparations or in vivo using the fluorescent fatty acid substrate 1,2-dioleoyl-3-(pyren-1-yl)decanoyl-rac-glycerol. Lipases are a family of hydrolytic enzymes that release fatty acids from triacylglycerols in a site-specific manner. Most lipases have optimum activity for the primary ester groups of triglycerides. While some lipases remove fatty acyl groups from either the C-1 or C-3 positions, others remove both C-1 and C-3 acyl groups. Only specific lipases will cleave the C-2 acyl group from triacylglycerols. The substrate is typically not a single molecule but a nonaqueous phase of aggregated lipid. Lipase activity, ubiquitous among most cells, can be monitored using the new fluorescent substrate kit that utilizes a fluorescent triglyceride 1,2-dioleoyl-3-pyrenedecanoyl-rac-glycerol. Upon cleavage, the fluorescent fatty acid, pyrenedecanoic acid, is released and activity measurements are easily obtained either in vitro (in cell preparations) or in vivo. The fluorescent triglyceride substrate also will have applications to other research areas including micelle and membrane labeling, fluorescence energy transfer experiments, and membrane fluidity studies.

Size

1 kit

Description

Lipases are a family of enzymes that release fatty acids from triacylglycerols in a site specific manner. Most lipases have optimum activity for the primary ester groups of triglycerides, while some lipases remove fatty acyl groups from either the C-1 or C-3 acyl positions. The substrate is typically not a single molecule, but a nonaqueous phase of aggregated lipid. Lipase activity, ubiquitous among most cells, can be monitored using the new fluorescent substrate 1,2-dioleoyl-3-(pyren-1-yl)decanoyl-rac-glycerol contained in the kit. Upon cleavage, the fluorescent fatty acid pyrenedecanoic acid is released and activity measurements are easily obtained either in vitro, in cell preparations, or in vivo. The kit contains enough substrate for

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numerous assays and control experiments, and also contains reference standards and a detailed protocol for use. See the references below for more information and applications.

Storage

Fluorescent reagents and fluorescently labeled oligosaccharides should be handled with care, kept cold (ice-bath) when not in use, and stored frozen (-20°C). In case of contact with skin or eyes, wash thoroughly with soap and cold water. Reagents should be Stable for at least 6 months following purchase. High background fluorescence readings for blank samples will indicate decomposition. These materials are intended for research purposes only. Use in drug or manufacturing processes is strictly prohibited.

Kit Components

A.) Substrate Reagent: 120 L of 30 mM 1,2-dioleoyl-3-pyrenedecanoyl-rac-glycerol (DPG) in n-butanol. B.) Reference Standard: 600 L of 10 mM pyrenedecanoic acid (PDA) in n-butanol. C.) Reaction Buffer

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