

Lipoprotein Lipase Assay Kit (Fluorometric) ab204721

[9 References](#) [4 Images](#)

Overview

Product name	Lipoprotein Lipase Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Plasma, Cell Lysate, Purified protein, Tissue Lysate
Assay type	Enzyme activity
Assay time	0h 20m
Species reactivity	Reacts with: Mammals, Other species
Product overview	Lipoprotein Lipase Activity Assay Kit (Fluorometric) ab204721 contains a quenched substrate that fluoresces upon hydrolysis by lipoprotein lipase (LPL). The fluorometric intensity is directly proportional to the amount of substrate hydrolyzed.

This lipase assay detects total lipase activity when no inhibitor is used. Comparing results in the presence or absence of an LPL inhibitor allows for quantification of LPL activity specifically.

Our results indicate that the majority (~90%) of lipase activity detected by this kit in post-heparin treated mouse plasma is from LPL. To determine the exact LPL specific activity in mouse plasma, measure activity in pre- and post-heparin treated plasma.

Notes This product is manufactured by BioVision, an Abcam company and was previously called K721 Lipoprotein Lipase Activity Fluorometric Assay Kit. K721-100 is the same size as the 100 test size of ab204721.

Lipoprotein lipase (LPL) is a member of the lipase family that hydrolyzes triglycerides in chylomicrons and very low-density lipoprotein (VLDL). Digestion of triglycerides in VLDL by LPL leads to their conversion to intermediate-density lipoprotein (IDL) and then low-density lipoprotein (LDL). LPL is found attached to the luminal surface of endothelial cells in the heart, muscle, and adipose tissue. Mutations in lipoprotein lipase can lead to a variety of disorders such as lipoprotein metabolism, hypertriglyceridemia etc. Overexpression of LPL in mice has been shown to promote obesity and insulin resistance.

Platform Microplate reader

Properties

Storage instructions Store at +4°C. Please refer to protocols.

Components	100 tests
LPL Inhibitor	1 x 20µl
LPL Assay Buffer	1 x 5ml
LPL Positive Control	1 vial
LPL Substrate	1 x 10µl

Function

The primary function of this lipase is the hydrolysis of triglycerides of circulating chylomicrons and very low density lipoproteins (VLDL). Binding to heparin sulfate proteoglycans at the cell surface is vital to the function. The apolipoprotein, APOC2, acts as a coactivator of LPL activity in the presence of lipids on the luminal surface of vascular endothelium.

Involvement in disease

Defects in LPL are the cause of lipoprotein lipase deficiency (LPL deficiency) [MIM:238600]; also known as familial chylomicronemia or hyperlipoproteinemia type I. LPL deficiency chylomicronemia is a recessive disorder usually manifesting in childhood. On a normal diet, patients often present with abdominal pain, hepatosplenomegaly, lipemia retinalis, eruptive xanthomata, and massive hypertriglyceridemia, sometimes complicated with acute pancreatitis.

Sequence similarities

Belongs to the AB hydrolase superfamily. Lipase family.
Contains 1 PLAT domain.

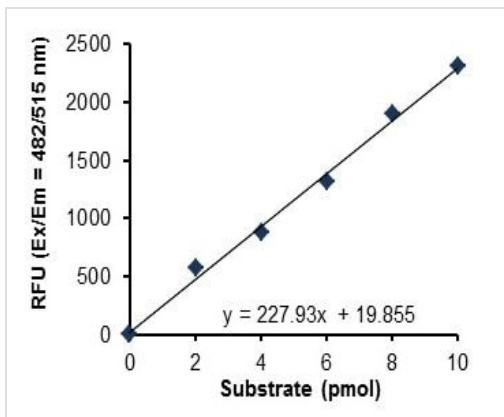
Post-translational modifications

Tyrosine nitration after lipopolysaccharide (LPS) challenge down-regulates the lipase activity.

Cellular localization

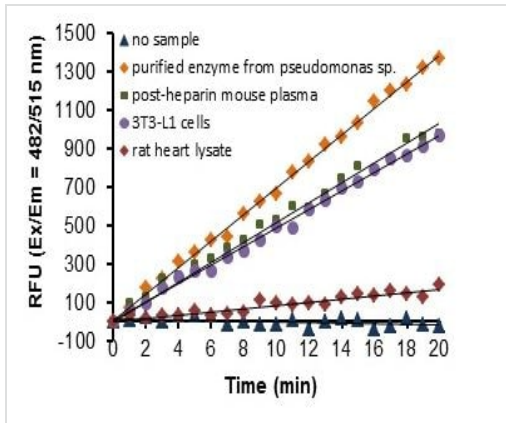
Cell membrane. Secreted. Locates to the plasma membrane of microvilli of hepatocytes with triacyl-glycerol-rich lipoproteins (TRL). Some of the bound LPL is then internalized and located inside non-coated endocytic vesicles.

Images



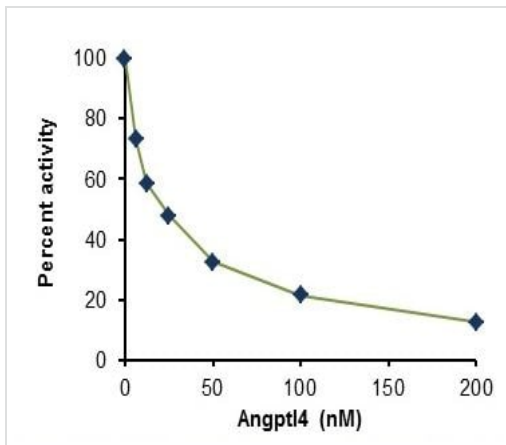
Typical LPL Substrate Standard Curve.

Lipoprotein Lipase Activity Assay Kit (Fluorometric)
(ab204721)



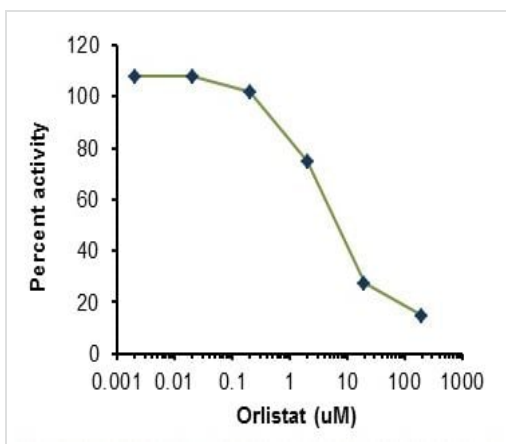
Lipoprotein Lipase Activity Assay Kit (Fluorometric)
(ab204721)

Measurement of LPL activity in purified enzyme from *Pseudomonas sp.* (5 ng), post-heparin treated mouse plasma (2 μ l), 7-day post-differentiated 3T3-L1 cell lysate (100 μ g), and rat heart lysate (200 μ g)



Lipoprotein Lipase Activity Assay Kit (Fluorometric)
(ab204721)

Inhibition of LPL activity from post-heparin treated mouse plasma by Angptl 4, an LPL specific inhibitor. The assay was run for 1 hour and the activity was determined by calculating the slope. The IC_{50} was determined to be 22.6 nM.



Lipoprotein Lipase Activity Assay Kit (Fluorometric)
(ab204721)

Inhibition of Positive Control by Orlistat, a generic lipase inhibitor. The assay was run for 1 hour and the IC_{50} was determined to be 11.4 μ M.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours

- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors