



Product Information

Roar LPL Activity Assay Kit, 200 assays

Catalog no. RB-LPL2

Introduction

Lipoprotein lipase (LPL) hydrolyzes triglycerides associated with VLDL. The **Roar LPL Activity Assay Kit** includes a non-fluorescent substrate emulsion that becomes intensely fluorescent upon interaction with LPL, and a pre-hydrolyzed standard for converting the fluorescence intensity reading to moles of reactant formed. The assay is not specific for LPL and will also detect hepatic lipase activity.

Kit Components

LPL Substrate Emulsion: 400 μ l

LPL Standard Pre-hydrolyzed Substrate: 100 μ l

Storage and Handling

Store kit components at 4°C.

If stored properly, components are stable for up to 1 year. DO NOT FREEZE.

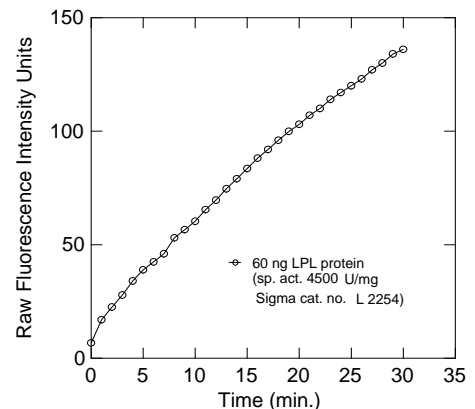
Materials Required, But Not Supplied

- Lipoprotein lipase source
- Assay buffer: 150 mM NaCl, 10 mM Tris, 2 mM EDTA, pH 7.4
- Fluorimeter with 370 nm excitation / 450 nm emission capability
- Black microplates (top-reading plate readers only) – one example is the U-bottom, black microplate from Thermo Electron cat. #7205 (also available from VWR cat. #25227-304)

Assay Method

1. Vortex substrate emulsion before use
2. Pre-mix substrate emulsion and assay buffer (150 mM NaCl, 10 mM Tris, 2 mM EDTA, pH 7.4) for all assays - use 1 μ l substrate with 200 μ l buffer
3. Distribute the mix among the wells or tubes
4. Add lipoprotein lipase source, incubate at 25°C - 37°C for 60 minutes
5. Read assay at 370 nm excitation / 450 nm emission

LPL Activity at 25° C



Standardization

Use the Standard Pre-hydrolyzed Substrate included with the kit to calculate pmoles of hydrolyzed substrate in the assay. The concentration of the standard is 75.7 μ moles/ml of pre-hydrolyzed substrate.

Make a 1:2500 dilution of the standard in assay buffer and serially dilute to generate a standard curve. For some very sensitive instruments, a further dilution of the standard (1:250000) may be necessary. Compare the fluorescence intensity values from the LPL samples assayed with the fluorescence intensity values of the standard curve.

RB-LPL Cited References

1. Terrand J, Bruban V, Zhou L, et al. LRP1 controls intracellular cholesterol storage and fatty acid synthesis through modulation of wnt signaling. *J Biol Chem.* **2009**;284(1):381-388.
2. Trost Z, Sok M, Marc J, Cerne D. Increased lipoprotein lipase activity in non-small cell lung cancer tissue predicts shorter patient survival. *Arch Med Res.* **2009**;40(5):364-368.
3. Yokota T, Nagashima M, Ghazizadeh M, Kawanami O. Increased effect of fucoidan on lipoprotein lipase secretion in adipocytes. *Life Sci.* **2009**;84(15-16):523-529.
4. Cerne D, Melkic E, Trost Z, Sok M, Marc J. Lipoprotein lipase activity and gene expression in lung cancer and in adjacent noncancer lung tissue. *Exp Lung Res.* **2007**;33(5):217-225.
5. Kim SJ, Nian C, McIntosh CH. Activation of lipoprotein lipase by glucose-dependent insulinotropic polypeptide in adipocytes. A role for a protein kinase B, LKB1, and AMP-activated protein kinase cascade. *J Biol Chem.* **2007**;282(12):8557-8567.
6. Kim SJ, Nian C, McIntosh CH. Resistin is a key mediator of glucose-dependent insulinotropic polypeptide (GIP) stimulation of lipoprotein lipase (LPL) activity in adipocytes. *J Biol Chem.* **2007**;282(47):34139-34147.
7. Qu S, Perdomo G, Su D, D'Souza FM, Shachter NS, Dong HH. Effects of apoA-V on HDL and VLDL metabolism in APOC3 transgenic mice. *J Lipid Res.* **2007**;48(7):1476-1487.
8. Kodera M, Hayakawa I, Komura K, et al. Anti-lipoprotein lipase antibody in systemic sclerosis: Association with elevated serum triglyceride concentrations. *J Rheumatol.* **2005**;32(4):629-636.
9. Mizunoya W, Haramizu S, Shibakusa T, Okabe Y, Fushiki T. Dietary conjugated linoleic acid increases endurance capacity and fat oxidation in mice during exercise. *Lipids.* **2005**;40(3):265-271.
10. Nishimura K, Shima K, Asakura M, Ohnishi Y, Yamasaki S. Effects of heparin administration on trypanosoma brucei gambiense infection in rats. *J Parasitol.* **2005**;91(1):219-222.
11. Altomonte J, Cong L, Harbaran S, et al. Foxo1 mediates insulin action on apoC-III and triglyceride metabolism. *J Clin Invest.* **2004**;114(10):1493-1503.
12. Yamazaki H, Arai M, Matsumura S, Inoue K, Fushiki T. Intracranial administration of transforming growth factor-beta3 increases fat oxidation in rats. *Am J Physiol Endocrinol Metab.* **2002**;283(3):E536-44.

For Research Use Only. Not for Diagnostic or Therapeutic Purposes.

Roar Biomedical, Inc., Audubon Biomedical Center, 3960 Broadway, New York, NY 10032 USA
Tel: +1 (212) 280-2983 ▪ Fax: +1 (212) 280-2968 ▪ info@roarbiomedical.com ▪ www.roarbiomedical.com

©2004-2009 Roar Biomedical, Inc. All rights reserved. This information is subject to change without notice.