CREATIVE BIOMART®
Assay Kit

Lipolysis (Adipocyte) Colorimetric/Fluorometric Assay Kit

Product Information

Cat

Kit-1111

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Description

Lipolysis is the intracellular hydrolysis of triglycerides into glycerol and free fatty acids, which are then released into the bloodstream or culture media. Lipolysis occurs in essentially all cells, but is most abundant in white and brown adipose tissue. Deficiencies in lipolysis lead to increased intracellular lipid accumulation, resulting in abnormal cellular physiology, hyperlipidemia, and insulin resistance. Lipolysis can be induced by hormones or catecholamine, which binds to β-adrenergic receptors leading to activation of adenylate cyclase, forming cAMP from ATP. cAMP serves as a second messenger to activate hormone-sensitive lipase, which hydrolyzes the triglycerides. This pathway is inhibited by insulin. Adipocyte Lipolysis Colorimetric/Fluorometric Assay kit is a simple, facile way to monitor lipolysis. The kit provides all reagents necessary to isolate adipocytes from up to 5 g of mouse or rat adipose tissue and measure glycerol release from primary adipocytes after induction of lipolysis. It also includes the synthetic catecholamine, Isoproterenol, to stimulate the cAMP-mediated pathway. The signal intensity is directly proportional to the amount of glycerol present. This assay kit can detect less than 200 pmol glycerol in the colorimetric assay and less than 20 pmol in the fluorometric assay.

Applications

Isolation of adipocytes from rat/mouse tissue
Measurement of lipolysis by adipocytes
Screening compounds that influence lipolysis, mechanistic studies and studies on metabolic dysfunction

Storage

-20°C

Tel: 1-631-559-9269 1-516-512-3133
Email:info@creative-biomart.org
Fax:1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

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Shipping
Gel Pack
Size
For 5 g Tissue
Kit Components
Collagenase (0.2%); Collagenase Stop Buffer; Adipocyte Wash Buffer; Adipocyte Lipolysis Buffer; Glycerol Assay Buffer; Glycerol Probe (in DMSO, anhydrous); Glycerol Enzyme Mix (Lyophilized); Glycerol Standard (100 mM); Isoproterenol (10 mM); Cell strainer (100 μm)
Detection method Absorbance (OD 570 nm) and Fluorescence (Ex/Em = 535/587 nm)
Features & Benefits
Simple, rapid & convenient method to isolate adipocytes from adipose tissue & measure lipolysis. The assay kit can detect less than 200 pmol glycerol in the colorimetric assay and less than 20 pmol in the fluorometric assay.

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