CREATIVE BIOMART®
Assay Kit

Glucose Cellular Uptake Measurement Fluorometric Kit

Product Information

Cat.No. Kit-0374

Product Overview

A complete reagent set to measure 2DG in cells after cell lysis by sonication.

Description

Insulin is a hormone that lowers the blood glucose level and is known to help glucose enter cells through an effect that enhances the activity of glucose transport, primarily in insulin-sensitive organs cells, such as adipocytes and skeletal muscles.The effect of insulin and other growth factors on cells is often assessed in the laboratory by measuring glucose uptake activity. Typically, glucose uptake is measured using 3-O-Methyl-D-Glucose or 2-deoxyglucose (2DG) labeled with radioactive 3H or other isotope. However, the use of radioactive isotopes is not available to all labs and is subject to many restrictions. This assay kit was developed to provide a simple, rapid and convenient means to measure cellular glucose uptake without the use of radioisotope.This assay utilizes the glucose analog 2-deoxyglucose in place of glucose. Like glucose, 2DG taken up by cells is rapidly phosphorylated by hexokinase to 2-deoxyglucose-6-phosphate (2DG6P). However, unlike glucose, 2DG6P is not further metabolized and accumulates in cells. Using the provided reagents, cell lysates are then assayed for 2DG6P levels in a coupled enzymatic re-dox reaction that produces a fluorescent signal whose intensity is proportional to the amount of accumulated 2DG6P. 2DG levels in cell lysate samples are thus calculated by comparing their fluorescence intensity to a standard curve produced with known amounts of 2DG6P.

Storage

Store kit at -20°C until expiration date printed on the label, protected from light.

Kit Components

1. 2DG6P Solution (1 mM): 500 μL 3 x 3 ml;2. Sample Diluent Buffer Concentrate (100x): 5 ml x 1 vial;3. Substrate Buffer: 9 mL x 1 vial;4. Fluorescent Substrate :120 μL x 1 vial;5. Enzyme Solution: 270 μL x 1 vial

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