CREATIVE BIOMART®
Assay Kit

2-NBDG Glucose Cell-Based Uptake Assay Kit

Product Information

Cat.No. Kit-2128

Size

50 assays

Description

Glucose is a ubiquitous energy source in most organisms and plays a pivotal role in cellular metabolisms and homeostasis. Cancer cells exhibit increased glucose uptake to support their high proliferation rate. 2-NBDG (2-deoxy-2-[(7-nitro-2,1,3-benzoxadiazol-4-yl) amino]-Dglucose) is a fluorescent deoxyglucose analog that can be taken up by cells through glucose transporters. However, 2-NBDG cannot be fully utilized in glycolysis because of its modification and thus accumulates inside the cells. Fluorescence generated by this fluorescent glucose analog is proportional to glucose uptake by the cells and can be used to measure glucose uptake using fluorescent microscopy and flow cytometry. To validate the assay, the kit includes phloretin, a natural phenol that inhibits glucose uptake. This easy to use non-radioactive kit allows imaging and accurate measurement of glucose uptake in cultured cells in response to insulin, growth factors etc.

Applications

Measurement of glucose uptake in response to insulin, growth factors, cytokines, mitogens and nutrients, etc.Dual-staining of glucose transporters and glucose uptake Analysis of glucose metabolism and cell signaling in various cell types.Screening of anti-diabetic compounds.

Storage

Store kit at -20°C, protected from light. Briefly centrifuge small vials prior to opening. Read entire protocol before performing the assay.Analysis Buffer (50X): Dilute Analysis Buffer with 1X PBS (not supplied) to make 1X Analysis Buffer. Keep on ice while in use.2-NBDG Reagent (100X): Aliquot and store at -20□C. For consistent results, avoid repeated freeze/thaw.

Kit Components

Analysis Buffer (50X): 1.8 ml2-NBDG Reagent (100X): 200 µlGlucose Uptake Enhancer: 1 mlPhloretin (100X): 75 µl

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Detection method	FACS (488 nm excitation laser) and fluorescent microscope (excitation range 420 nm-495 nm).

Compatible Sample Types

Adherent or suspension cells

Features & Benefits

• Easy-to-use • Non-radioactive • Image and accurately measure glucose uptake in cultured cells in response to insulin, growth factors etc.

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