CREATIVE BIOMART®
Assay Kit

Glucose Uptake Assay Kit

Product Information

Cat

Kit-2521

Cat.No.

Kit-2521

Product Overview

Glucose Uptake has a variety of methods and transporters, and depends upon the metabolic demand of the cell type and availability of glucose. There are over ten different facilitated diffusion glucose transporters which transports glucose down its concentration gradient without ATP hydrolysis. In the kidneys, secondary active transport is used to uptake Glucose against its concentration gradient to ensure that very little glucose is excreted in urine. fluorescent cell-based glucose uptake assay uses 2-deoxyglucose (2-DG), a widely used glucose analog because it can be taken up by glucose transporters and metabolized by endogenous hexokinase into 2-deoxyglucose 6-phosphate (2-DG6P). 2-DG6P accumulates intracellularly because it is not a suitable substrate for phosphoglucose isomerase, the next step in glycolysis. The cells are lysed, and excess NADP and glucose 6-phosphate dehydrogenase (G6PDH) is added to metabolize 2-DG6P and generate a molar equivalent amount of NADPH. The NADPH is then measured using a G6PDH recycling reaction to amplify the signal and generate a fluorescent signal measureable at λex/em = 530/585 nm proportional to the concentration of 2-DG6P.

Storage

-20°C

Shipping

On Ice

Size

100 tests

Detection method FL530/585nm

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Glucose Uptake Assay Kit

Compatible Sample Types
Cell culture
Features & Benefits
Safe. No radioactive material is used. Sensitive and Accurate. Detection limit of 0.1 μM and linearity up to 5 μM 2-DG6P. Simple and Convenient. Can be automated as a medium throughput assay for glucose transport in cells.
Assay time
Approximately 2 hrs
Sensitivity
0.1 μM

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