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Product datasheet

Glucose Uptake Assay Kit (Fluorometric) ab136956

13 References 画像数 4

製品の概要

製品名	Glucose Uptake Assay Kit (Fluorometric)
検出方法	Fluorescent
サンプルの種類	Adherent cells, Suspension cells
アッセイタイプ	Quantitative
検出感度	= 0.05 nmol/well
全工程の試験時間	2h 00m
種交差性	**交差種:** Mammals, Other species
製品の概要	Glucose Uptake Assay Kit (Fluorometric) ab136956 is a highly sensitive and easy to use non-radioactive kit which can detect glucose uptake as low as 50 pmol/well in a variety of cell types. 2-deoxyglucose (2-DG) is used in glucose uptake assay protocols because of its structural similarity to glucose. 2-DG is taken up by glucose transporters and metabolized to 2-DG-6-phosphate (2-DG6P). 2-DG6P cannot be further metabolized, and thus accumulates within cells. The accumulated 2-DG6P is directly proportional to 2-DG (or glucose) uptake by cells. In this assay, the accumulated 2-DG6P is enzymatically oxidized and coupled to a probe, which generates fluorescence in the presence of NADPH. Glucose uptake assay protocol summary: - prepare cells with suitable glucose starvation / uptake stimulation depending on experimental set-up - add 2-DG to cells and incubate for 20 mins at 37ºC - wash cells with PBS to remove exogenous 2-DG - lyse cells with extraction buffer and repeated pipetting - freeze/thaw lysates and heat at 85ºC for 40 min - cool on ice for 5 min - add neutralizing buffer, spin and retain supernatant - add supernatants and standards to wells - add reaction mix and incubate for 40 min at 37ºC
特記事項	This product is manufactured by BioVision, an Abcam company and was previously called K666 Glucose Uptake Fluorometric Assay Kit. K666-100 is the same size as the 100 test size of ab136956. If you want a more sensitive assay, we recommend using **Glucose Uptake Assay Kit (Colorimetric) (ab136955)**, which contains an amplification step that allows the kit to detect < 10

pmol/well.

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
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試験プラットフォーム Microplate reader

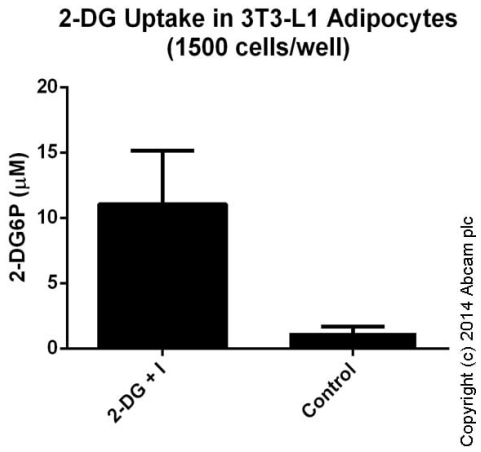
製品の特性

保存方法 Store at -20°C. Please refer to protocols.

内容	100 tests	100 tests
2-Deoxyglucose	1 x 1ml	1 x 1ml
2-DG Uptake Assay Buffer	1 x 10ml	1 x 10ml
2-DG6P Standard	1 vial	1 vial
Enzyme Mix XXIV	1 vial	1 vial
Extraction Buffer I	1 x 17ml	1 x 17ml
Neutralizing Buffer	1 x 1ml	1 x 1ml
PicoProbe II	1 x 0.2ml	1 x 0.2ml

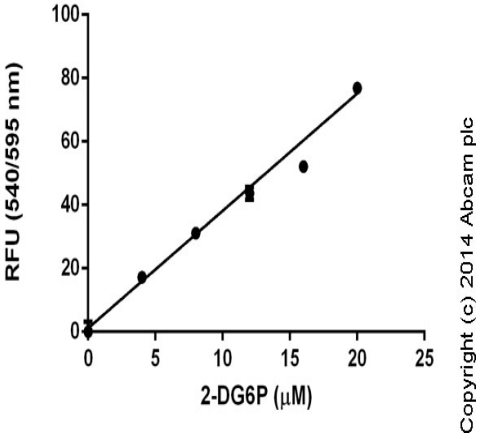
関連性 Glucose ($C_6H_{12}O_6$; FW: 180.16) is a ubiquitous energy source in most organisms, from bacteria to humans. The breakdown of carbohydrates produces mono- and disaccharides, most of which is glucose. Through glycolysis and TCA (citric acid cycle), glucose is oxidized to eventually form CO_2 and water, generating the universal energy molecule ATP. Glucose is a primary source of energy for the brain and a critical component in the production of proteins and in lipid metabolism and therefore measurement of glucose level is a key diagnostic parameter for many metabolic disorders.

画像



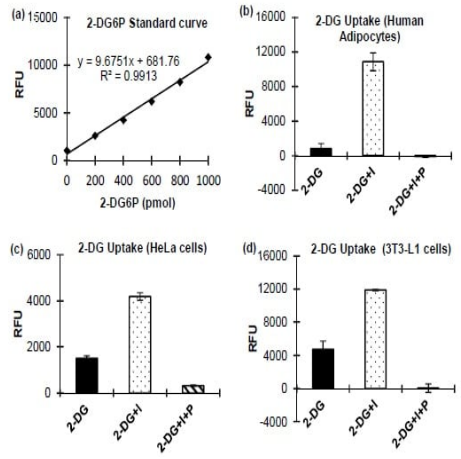
Functional Studies - Glucose Uptake Assay Kit (Fluorometric) (ab136956)

Glucose Uptake measured in 3T3-L1 Adipocytes; I = Insulin.



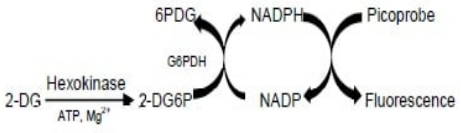
Functional Studies - Glucose Uptake Assay Kit (Fluorometric) (ab136956)

Standard curve: mean of duplicates (+/- SD) with background reads subtracted



Example data

2-DG6P Standard curve (a) and 2-DG uptake in Human adipocytes (b) , HeLa Cells (c) and 3T3-L1 cells (d) respectively. I=Insulin; P=Phloretin.



Assay Procedure

Accumulated 2-DG6P is enzymatically oxidized and coupled to the picoprobe, which generates fluorescence in the presence of NADPH.

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