

Glucose Uptake Assay Kit (Colorimetric) ab136955

★★★★★ [1 Abreviews](#) [159 References](#) [画像数 3](#)

製品の概要

製品名	Glucose Uptake Assay Kit (Colorimetric)
検出方法	Colorimetric
サンプルの種類	Adherent cells, Suspension cells
アッセイタイプ	Cell-based (quantitative)
検出感度	<= 0.01 nmol/well
全工程の試験時間	3h 00m
種交差性	交差種: Mammals, Other species
製品の概要	Glucose Uptake Assay Kit (Colorimetric) (ab136955) is a highly sensitive and easy to use non-radioactive assay kit which can detect glucose uptake as low as 10 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 2-DG6P is oxidized to generate NADPH, the level of which can be determined by an enzymatic recycling amplification reaction.

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 37°C
- wash cells with PBS to remove exogenous 2-DG
- lyse cells with extraction buffer and repeated pipetting
- freeze/thaw lysates and heat at 85°C for 40 min
- cool on ice for 5 min
- add neutralizing buffer, spin and transfer supernatant to new tubes
- add supernatants and standards to wells
- add reaction mix A and incubate for 1 hr at 37°C
- add extraction buffer and heat to 90°C for 40 min
- cool on ice for 5 min and add neutralizing buffer
- add reaction mix B
- analyze every 2-3 mins on microplate reader in kinetic mode at 37°C

TEST

特記事項

This product is manufactured by BioVision, an Abcam company and was previously called K676 Glucose Uptake Colorimetric Assay Kit. K676-100 is the same size as the 100 test size of ab136955.

Review our [Metabolism Assay Guide](#) to learn about assays for metabolites, metabolic enzymes, mitochondrial function, and oxidative stress, and also about how to assay metabolic function in live cells using your plate reader.

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

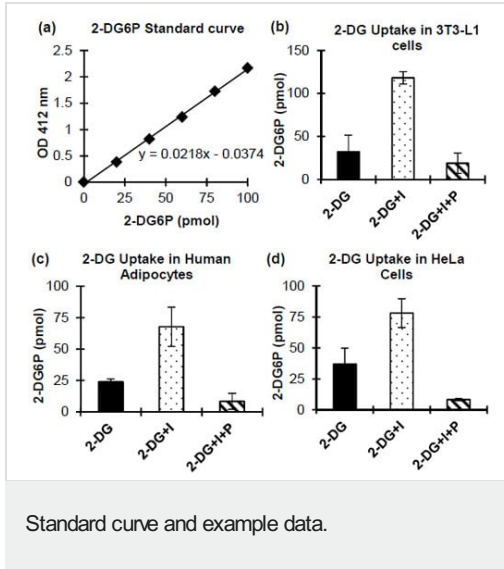
製品の特性

保存方法

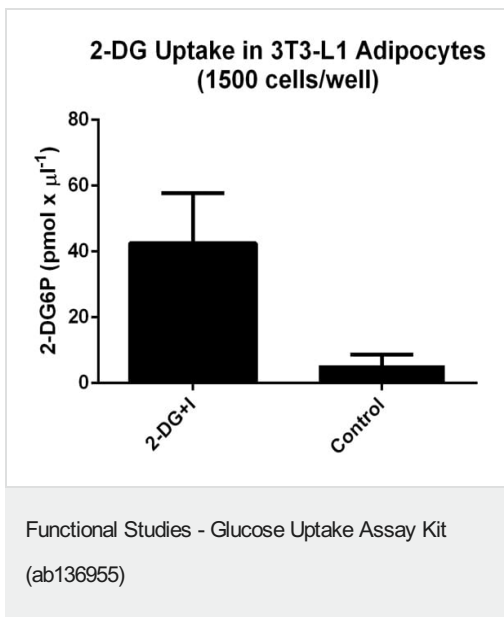
Store at -20°C. Please refer to protocols.

内容	100 tests
2-Deoxyglucose	1 x 1ml
2-DG6P Standard	1 vial
Assay Buffer III	1 x 25ml
DTNB	2 vials
Enzyme Mix III	1 vial
Extraction Buffer I	1 x 17ml
Glutathione Reductase	2 vials
Neutralization Buffer II	1 x 2.5ml
Recycling Mix	1 vial

画像



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

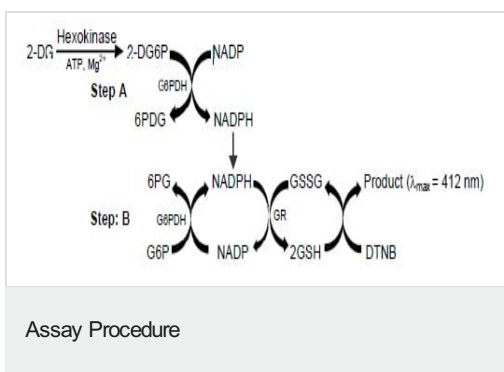


Glucose uptake in 3T3-L1 adipocytes stimulated with insulin (I). 3T3-L1 adipocytes were differentiated using:

Dexamethasone [ab120743](#) (1mM, 1:1000)

IBMX [ab120840](#) (11.5 mg/mL, 1:100)

Insulin [ab123768](#) (1 mg/mL, 1:1000)



Step A: 2-DG oxidation to generate NADPH; Step B: NADPH recycling amplification Reaction.

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