



NON-RADIOACTIVE

New

2DG Glucose Uptake Assay

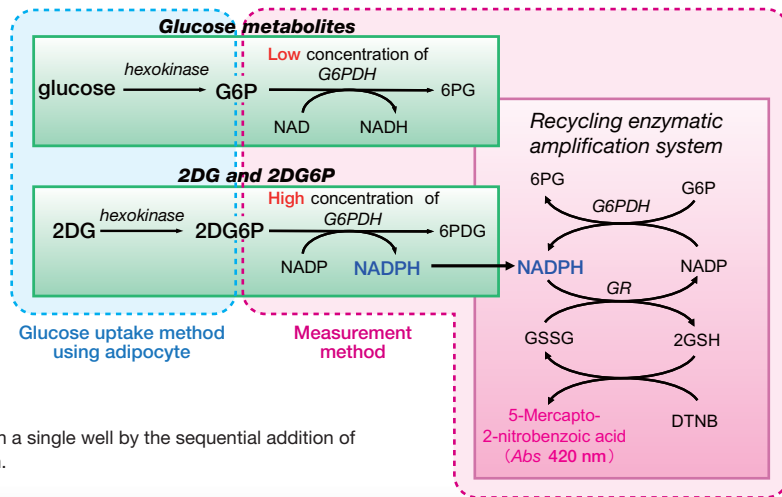


Sensitive, accurate, and safe measurement of glucose uptake (2DG) by cultured cells is now available to all laboratories. No radiation permit required ! The Glucose Uptake Assay Kit from Cosmo Bio features:

- Picomole sensitivity
- Advanced recycling enzymatic amplification
- Photometric detection (420 nm)
- No wash, automation friendly assay protocol
- Optimized for 96-well culture plates
- Needs no correction for extracellular 2DG

Assay Principle: A recycling enzymatic amplification system measures NADPH produced by the *in vitro* oxidation of 2DG6P accumulated in cells following 2DG uptake.

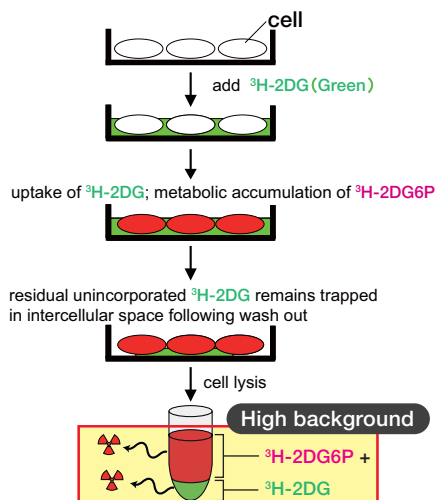
- 1) So as not to effect glucose metabolism, only a small amount of 2DG is added to live cells. Incorporated 2DG is converted by cell metabolism to 2DG6P, which accumulates in cells. Cell lysates are then prepared.
- 2) To eliminate detection of G6P, G6P is oxidized (to 6PG) with NAD⁺ and a low concentration of G6PDH.
- 3) 2DG6P levels are quantitated by measuring the amount of NADPH produced during 2DG6P oxidation (with NADP⁺ and a high concentration of G6PDH) in a photometric recycling amplification/detection system.



All reaction steps are conveniently performed in a single well by the sequential addition of premixed reagents. Ideal for assay automation.

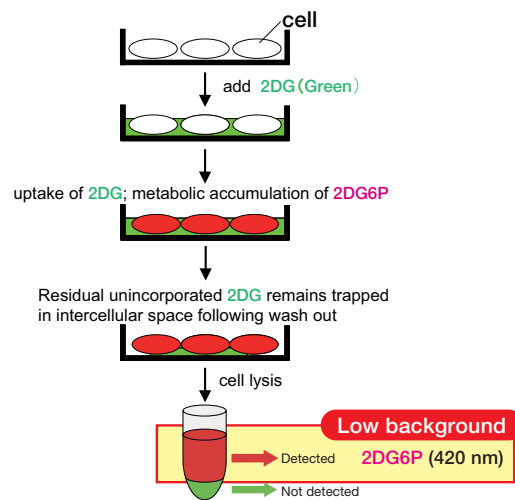
Enzymatic assay eliminates measurement errors due to unincorporated ³H-2DG

RI method



High assay background caused by inability to distinguish between cellular ³H-2DG6P and residual unincorporated ³H-2DG.

2-Deoxyglucose uptake measurement kit

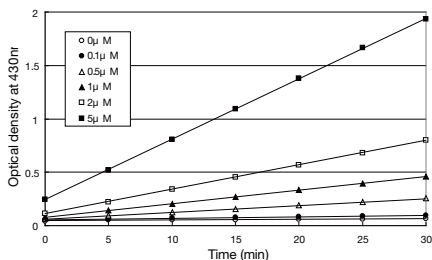


Low assay background because residual unincorporated 2DG is not converted to 2DG6P.

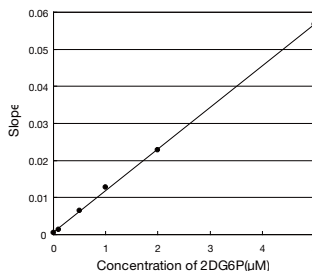


COSMO BIO CO., LTD.

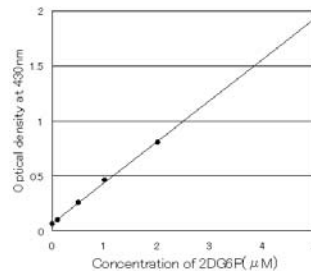
Assay performance using known concentrations of 2DG6P



Optical Density (OD) vs. time at various concentrations of 2DG6P

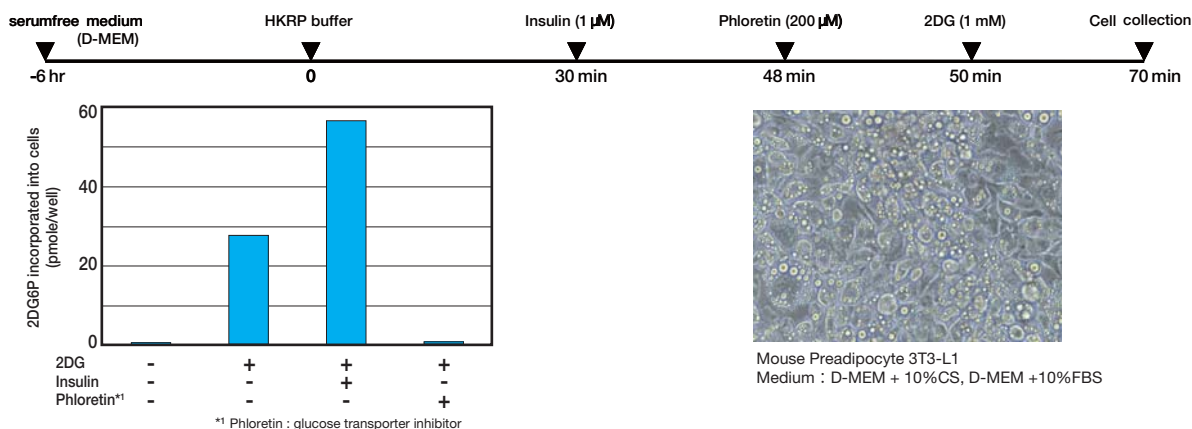


Assay calibration curve - Kinetic Mode (30 minutes incubation)

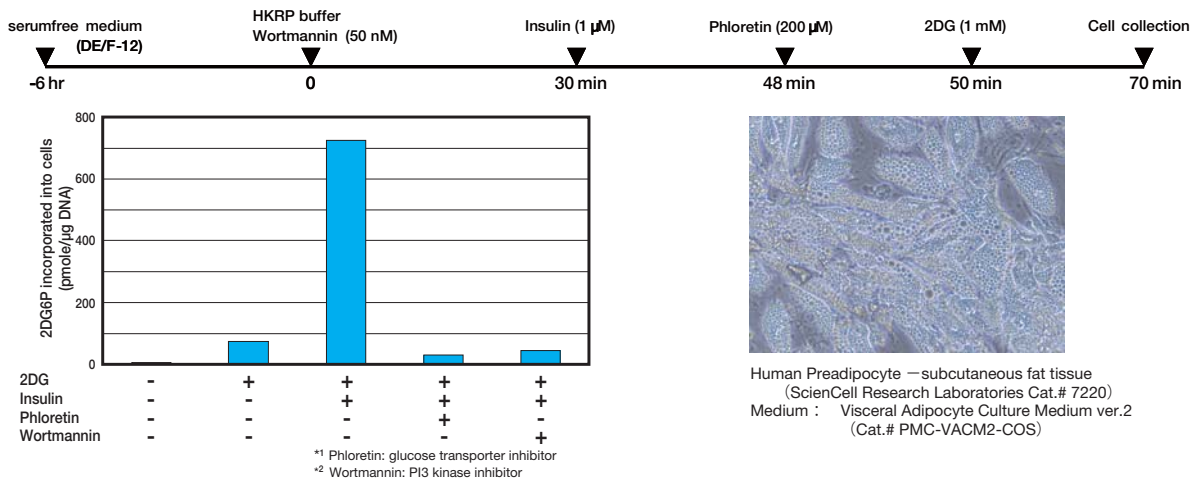


Assay calibration curve - Endpoint Mode (30 minutes incubation)

Experimental example 1 - 2-deoxyglucose (2DG) uptake by 3T3-L1 cells



Experimental Example 2 - 2-deoxyglucose (2DG) uptake by human adipocytes



Ordering Information

Description	Cat. No.	Quantity
2-Deoxyglucose uptake measurement kit	CSR-OKP-PMG-K01TE	1 KIT (25 TEST)
	CSR-OKP-PMG-K01E	1 KIT (50 TEST)

For research use only, Not for diagnostic use.



COSMO BIO Co., LTD.

TOYO EKIMAE BLDG, 2-20, TOYO 2-CHOME,
 KOTO-KU, TOKYO 135-0016, JAPAN
 TEL : (81)3-5632-9617
 FAX : (81)3-5632-9618
 e-mail : export@cosmobio.co.jp
 URL : www.cosmobio.com