CREATIVE BIOMART®
Assay Kit

1,5-Anhydroglucitol Uptake Assay Kit (Cell-Based)

Product Information

Cat

Kit-1004

Common Name

1,5-Anhydroglucitol

Cat.No. Kit-1004

Description

1,5-Anhydroglucitol (1,5-AG) is the 1-deoxy form of D-glucose. Its level in blood plasma has been used in clinical research to investigate short-term glycemic control levels in diabetic patients. Cereals and animal source proteins constitute the main 1,5-AG source for humans.Most of 1,5-AG is absorbed by renal tubules, and its levels in human body are highly regulated and relatively consistent. Glucose can act as a competitive inhibitor of 1,5-AG in blood. Therefore, glucose levels are inversely proportional to 1,5-AG concentrations. The physiological function of 1,5-AG is not well understood. Recent studies showed 1,5-AG uptake could be associated with sodium-dependent glucose transporter. 1,5-Anhydroglucitol Uptake Assay Kit utilizes a proprietary fluorescent 1,5-AG analog, which can be taken up by cells. However, this 1,5-AG analog cannot be fully utilized in glycolytic processes and thus accumulates inside the cells. Fluorescence generated by this analog is proportional to the cellular 1,5-AG uptake. The assay can be used to monitor 1,5-AG uptake by using fluorescent microscopy and flow cytometry. Phloretin, a compound that can inhibit glucose transporter and 1,5-AG cell uptake, is included in the kit as a control. This non-radioactive assay kit is easy-to-use and allows qualitative and quantitative measurements of 1,5-AG uptake in cultured cells.

Applications

Measurement of 1,5-Anhydroglucitol uptake in response to insulin, growth factors, cytokines, mitogens and nutrients, etc.
Dual-staining of 1,5-AG transporters and 1,5-AG uptake
Analysis of 1,5-AG metabolism and cell signaling in various cell types
Screening of anti-diabetic compounds

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Assay Kit

1,5-Anhydroglucitol Uptake Assay Kit (Cell-Based)

Storage	
-20°C	
Shipping	
Gel Pack	
Size	
50 assays	
Kit Components	
Analysis Buffer; AGTracker; Reagent (100X); Phloretin (100X) (in DMSO); Phloretin (100X)	
Detection method	FACS (488 nm excitation laser) and fluorescent microscope (excitation range 420 nm-495 nm)
Features & Benefits	
Easy-to-use; Non-radioactive; Image and accurately measure 1,5-Anhydroglucitol uptake in cultured cells in response to insulin, growth factors etc.	

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