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Working

U Mass - Glucose

Jason Kim[1]

[1]University of Massachusetts

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Mouse Metabolic Phenotyping Centers

Tech. support email: **info@mmpc.org**

Lili Liang

ABSTRACT

Summary:

This experiment measures blood or plasma glucose concentration using Analox GM9 Glucose Analyzer or GM7 Micro-Stat Rapid Multi-assay Analyzer. The measurement is based on the rate of oxygen uptake in the reaction between sample glucose and glucose oxidase. Plasma glucose levels are elevated (i.e., hyperglycemia) in obesity, insulin resistance, and type 2 diabetes.

EXTERNAL LINK

https://mmpc.org/shared/document.aspx?id=159&docType=Protocol

MATERIALS

NAME	CATALOG #	VENDOR	CAS NUMBER	RRID
Analox GM9 Glucose Analyzer	GM9 Glucose Analyser	Analox		
Analox GM7 Microstat Analyzer	GM7 Microstat Analyzer	Analox		
Glucose Reagent	GMRD-002A	Analox		
Glucose Standard (144.1 mg/dl)	GMRD-011	Analox		
Microman M10 Precision Pipet	F148501	Gilson		

BEFORE STARTING

Notes:

√ Freshly prepared blood or plasma samples are recommended. If storing samples, keep blood and plasma samples at –20° C or at -70°C for long-term storage. Avoid freeze/thaw cycles.

√ Avoid using samples with gross hemolysis or lipemia.

√ Allow all reagents to come to room temperature before measurement.

1 Check waste and fill glucose reagent reservoir.

2 Prepare ~0.1ml of standard solution (~144 mg/dl).

3 Press “Enter”, and then “No” to cycle the Analox Analyzer.

4 When cycling is finished, wait for reading to return to ~0 mg/dl (±1mg/dl).

5 Enter calibration mode.

6 Using precision pipet, inject 10 µl of standard solution.

7 Rinse pipet with dH_2O.

8 When value is reached, accept calibration.

9 When reading has returned to ~0 mg/dl, inject 10 µl of standard solution, and ensure that the value is ~144 mg/dl.

10 Repeat steps #5~#9 until calibration value is stable.

11 Check calibration by injecting 5 µl of standard and multiplying reported value by 2.

12 The final calculated value should be ~144 mg/dl.

13 Instrument is now ready for sample measurement. Use 5 or 10 µl of plasma sample for glucose concentration measurement.