# GLUCOSE SL

**Enzymatic colorimetric method**
Liquid reagent ready to use

**REF. 4057 4x 100 ml**
**REF. 4058 4x 250 ml**
**REF. 4056 2x 250 ml**
**REF. 4089 1x1000 ml**

CE
IVD

Azienda certificata DNV

GIESSE DIAGNOSTICS

## INTENDED USE

Quantitative determination of glucose in serum, plasma, urine.

## PRINCIPLE

The glucose oxidase (GOD) oxidizes glucose to gluconic acid and forms hydrogen peroxide which, in the presence of i peroxidase (POD), reacts with 4-AAP and phenol and produces a colored complex, whose color intensity is directly proportional to glucose concentration in the sample.

## SAMPLE

Serum, plasma with heparin, urine. Avoid hemolyzed samples.
Separate serum from clot as soon as possible.
Dilute urine 24/h 1:10 with saline.
Glucose in the sample is stable 2 days at 2-8°C and 8 hours at 15-25°C.

## KIT COMPONENTS

| | | |
|---|---|---|
| Reagent (A) GLU<br>Volume = 100/250/1000 ml | buffer<br>Glucose oxidase<br>POD<br>4-AAP<br>Phenol | 100 mmol/l<br>10000 U/l<br>2000 U/l<br>1 mmol/l<br>10 mmol/l |
| Standard GLU<br>Volume = 10 ml | Glucose | 100 mg/dl<br>(5.56 mmol/l) |

The reagents are stable until the expiration date indicated on the label if stored at 2-8°C and protected from light. Do not freeze. Once opened reagents are stable for 2 months at 2-8°C if contamination is avoided.
Keep bottles closed when not in use.

## REAGENT PREPARATION

Liquid reagent, bring to room temperature (15-25°C) before use.
Pale colouring of the reagent (< 0.050 O.D.) due to air-light exposure doesn't compromise the working.

## PRECAUTIONS AND WARNINGS

Reagent may contain some non-reactive and preservative components. It is suggested to handle carefully it, avoiding contact with skin and swallow.
Use the normal precautions required in the laboratory.
Dispose of waste according to local laws.

## PROCEDURE

| | |
|---|---|
| Wavelength: | 510 nm (500 – 520) |
| Lightpath : | 1 cm |
| Temperature: | 37°C |
| Reading: | against blank reagent |
| Method: | Increasing End Point |
| Sample/Reagent: | 1/100 |

| pipette: | **blank** | **sample** | **standard** |
|---|---|---|---|
| **Reagent (A)** | 1000 µl | 1000 µl | 1000 µl |
| **water** | 10 µl | | |
| **sample** | | 10 µl | |
| **standard** | | | 10 µl |

Mix, incubate at 37°C for10 minutes, read against blank reagent the absorbance of the sample (Ax) and the standard (As).

Reaction volumes can be proportionally varied.
This method describes the manual procedure to use the kit.
For automated procedure, ask for specific applications.

## RESULTS CALCULATION

Serum, plasma:

Glucose mg/dl = Ax/As x 100 (standard Value)

Urine:

Glucose mg/24h = Ax/As x 100 x 10 x Urine Vol. (dl)

## EXPECTED VALUES

**Serum/plasma: 70 - 105 mg/dl**

**Urine 24h: < 500 mg/24h**

Each laboratory should establish appropriate reference intervals related to its population.

## QUALITY CONTROL

You must perform the controls at each kit's use and verify that the values obtained are within the reference range reported in the operating instructions. For this purpose we recommend the use of control sera: PRECISENORM (REF.6000) and PRECISEPATH (REF.6001).

## PERFORMANCE

**Sensitivity:** the sensitivity of the method is: 3 mg/dl.
**Linearity:** the method is linear up to 800 mg/dl. For higher values, dilute the sample 1:2 and multiply the result by 2.
**Precision intra-assay:**

| | Level 1 | Level 2 |
|---|---|---|
| Mean (mg/dl) | 44.05 | 151.5 |
| DS | 0.366 | 1.179 |
| CV % | 0.83 | 0.78 |

**Precision inter-assay:**

| | Level 1 | Level 2 |
|---|---|---|
| Mean (mg/dl) | 44.83 | 154.0 |
| DS | 0.245 | 1.333 |
| CV % | 0.55 | 0.87 |

**Interferences:** bilirubin does not interfere up to 5 mg/dl. Triglycerides do not interfere up to 300 mg/dl.
**Correlation against a reference method:** Y = 0.9865x + 2.2063 r = 0.9941

## REFERENCES


1. Trinder P., Ann. Clin. Biochem. 6, 24 (1969)
2. Vassault, A. et al. Ann. Biol. Clin., 44,686 (1986)
3. Kaplan LA, Pesce AJ: " Clinical Chemistry", Mosby Ed. 1989



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