Folin & Wu's Phosphate, Molybdate

R007

Intended use

Folin & Wu's Phosphate, Molybdate is used for determination of blood sugar by Folin Wu's method.

Composition**

Ingredients

Molybdic acid	35.0 gm
Sodium tungstate	5.0 gm
10% NaOH solution	200.0 ml
Phosphoric acid	125.0 ml
Distilled water	500.0 ml

Final pH (at 25°C) 6.7±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

A. Deproteinisation :

1. Take 1 ml blood in a test tube.
2. Add 7 ml distilled water and 1 ml of 0.6 N H_2SO_4 and mix well. Allow it to react for 5-10 minutes.
3. Precipitate the proteins by adding 1 ml of 10% Sodium tungstate. Mix thoroughly and keep at room temperature for 10 minutes.
4. Centrifuge or filter through Whatman No. 1 filter paper.

B. Reduction and Colour Development:

1. Pipette out 2 ml of the above filtrate into a Folin-Wu tube labelled "Test".
2. Add 2 ml of standard glucose (100% in saturated benzoic acid) in to another Folin-Wu tube named "S".
3. Add 2.0ml Folin and WU's Alkaline Copper solution (R006) in each tube. Mix and keep in boiling water bath for 8 minutes.
4. Cool under running tap water.
5. Add 2.0 ml of Folin and WU's phosphate molybdate solution (R007) and dilute with distilled water to 25 ml mark. Mix well and keep for 5 minutes.
6. Read the colour of standards and test at 420 nm using distilled water as blank. Blood glucose: (mg/dl) = OD of T/OD of S x 100.

Principle And Interpretation

Reducing sugars under alkaline conditions reduce the cupric ions of the copper reagent to cuprous ions. Cuprous oxides reacts with phosphomolybdic acid to from molybdenum blue. Intensity of molybdenum blue is directly proportional to the reducing sugars present. It is measured at 625 nm and compared with a known standard.

Type of specimen

Clinical samples: Blood

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use only. Read the label before opening the container. Wear protective gloves/protective clothing/ eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. All these methods suffer the disadvantage that the final colour fades at such a rate as to imperil its accurate comparison with a standard glucose solution similarly treated.
2. The amount of color varies with different sugar. In this regard it is less constant than the biuret reaction.
3. The color is not strictly proportional to concentration.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Quality Control

- **Appearance :** Colourless solution
- **Clarity :** Clear with no insoluble particles.
- **Reaction :** Reaction of the solution at 25°C

  pH : 0.40-1.40
- **Test :** Estimation of blood sugar is carried out by Folin and WU's method.
- **Results :** The normal range for 1. Blood sugar (fasting) : 80-120 mg/dl.
  2. Blood sugar P.P (2hours after lunch) : Up to 140 mg/dl

Storage and Shelf Life

Store between 10-30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques.

Reference

1. Godkar B. P., 1996, Textbook of medical labora ry technology: 4(44-46)
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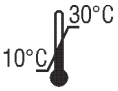
4. Lapage S., Shelton J. and Mitchell T., 1970, M hods in Microbiology', Norris J. and Ribbons D., (Eds.), Vol. 3A, Academi Press, London.
5. MacFaddin J. F., 2000, Biochemical Tests for Identification of Medical Bacteria, 3rd Ed., Lippincott, Williams and Wilkins, Baltimore



Storage temperature

Do not use if package is damaged

In vitro diagnostic medical device

CE Marking

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