R.B.C. Diluting Fluid (Grower's)

R023

Intended use

R.B.C. Diluting Fluid (Grower's) is used as diluting fluid for blood specimen to count the red blood cells under high powder by hemocytometry.

Composition**

Ingredients

Sodium sulphate	12.50 gm
Glacial acetic acid	33.30 ml
Distilled water	100.0 ml

**Formula adjusted, standardized to suit performance parameters

Directions

1. Prepare a 1:200 dilution of blood, using an RBC pipette.
2. Draw well-mixed blood to the 0.5 mark.
3. Wipe the outside of the pipette, clean with a piece of dry gauge without touching the opening of the capillary and immerse in the freshly filtered diluting fluid.
4. Immediately draw diluting fluid to the 101 mark past the bulb.
5. Rotate the pipette for 3 minutes immediately before filling the hemocytometer.
6. Expel, first 4 - 6 drops from the pipette and fill one side of counting chamber.
7. Allow the cells to settle for a few minutes.

Principle And Interpretation

RBC diluting fluid is isotonic with blood, hence hemolysis does not take place. Normal Saline also can be used. But it causes slight creation of red blood cells and allows rouleaux formation. The blood specimen is diluted 1:200 with the RBC diluting fluid and cells are counted under high power (40 x objective) by using a counting chamber. The number of cells in undiluted blood are calculated and reported as the number of Red cells per cu mm (MI) of whole blood.

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

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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. Diluting fluid should be free from particles or contamination, if diluting fluid is contaminated it may interfere in counting of cells.
2. Be careful while loading or charging , do not introduce bubbles into the hemocytometer. It may give false positive results.

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.
- **Results :** Under high power magnification, count the cells in the centre and in the four corner squares of the central ruled area
- **Calculation :**
  Red Blood cells/mm^3 in the Original blood = Cell counted X Dilution Factor/Volume counted in mm^3
  = Cell counted X 200/0.02mm3
  = Cell counted X 10000

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 laboratory technology: 34(448)
2. Lapage S., Shelton J. and Mitchell T., 1970, Methods in Microbiology', Norris J. and Ribbons D., (Eds.), Vol. 3A, Academic Press, London.
3. 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

IVD

In vitro diagnostic medical device

CE Marking

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EC REP

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