C.S.F. Diluting Fluid

R004

Intended use

The C.S.F. Diluting Fluid is used for RBC & WBC counting in Cerebrospinal Fluid analysis.

Composition**

Ingredients	
Crystal violet	0.20 gm
Glacial acetic acid	10.0 ml
Distilled water	90.0 ml
Final pH (at 25°C)	2.1±0.05

**Formula adjusted, standardized to suit performance parameters

Directions

1. Cerebrospinal fluid (CSF) is collected by lumber puncture in 3 sterile tubes. The last tube is used for the cell count by hemocytometer.
2. Charge hemocytometer with well mixed specimen by pipette into the sampling area so that it fills by capillary action.
3. Count both WBC & RBC's in hemocytometer and calculate cell count by using standard formula.
4. C.S.F. diluting fluids is used to stain the white cells and lyse the red cells. The red cell count can be obtained by subtracting the white cell count from the total count.
5. If specimen is visibly bloody or turbid make a dilution. Make sure to adjust for your dilution factor when calculating.

Principle And Interpretation

Cerebrospinal fluid is the product of continuous secretory activity of the choroid plexuses of the brain ventricles. The types of cells present in a CSF specimen provide valuable clues to the etiology of disease although cell counts can be performed on both WBCs and RBCs, usually only WBCs are counted. This is because the number and types of WBCs present are valuable clues to the presence and nature of an infection. Red blood cell counts, on the other hand, are of limited diagnostic value; these are usually performed only when it is necessary to correct for the WBC count or protein introduced into the specimen during a traumatic tap. C.S.F. Diluting Fluid is diluted the blood which removes the red cells by hemolysis and also stains the nuclei of the white cells, thus the counting of the white cells becomes easy. Blood cell counts can be performed using the hemocytometer.

Type of specimen

Clinical samples: CSF

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. Delayed specimen may not give reliable results by these procedure, as both WBCs and RBCs begin to degrade as soon as 1 hour after collection.
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 :** Purple coloured, solution.
- **Clarity :** Clear with no insoluble particles.
- **Reaction :** Reaction of the solution at 25°C pH :1.95-2.15

Calculation:

$$\text{cells } \mu/L = \frac{\text{number of cells counted X dilution factor}}{\text{number of squares counted X volume of square}}$$

If the specimen is undiluted, the calculation is even simpler because the dilution factor is 1.

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. Logothetis J.and Bovis M.,1961, World Neurol.,2:747
2. Godkar B. P., 1996, Textbook of medical laboratory technology: 44(603-606)
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
4. Jorgensen, J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

Storage temperature

Do not use if package is damaged

IVD

In vitro diagnostic medical device

CE Marking

HiMedia Laboratories Pvt Limited
C-40,21/Y, MIDC, Wagle Ind Area,
Thane(W)–400604,Maharashtra,India

EC REP

CEpartner4U,ESDOORNLAAN 13,3951
DB MAARN,The Netherlands,
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