# Leukocyte Diluent (Counting Solution)

Cat #: A-CSH513

Size: 100mL

Storage: Room temperature (12 months)

## Product Description

White blood cells (WBC) are a common type of immune cells in the blood. The principle of white blood cell dilution is that when blood is mixed with the dilution solution, mature red blood cells are completely lysed, and a certain volume of the diluted sample is counted under a microscope to determine the number of white blood cells per liter of blood. This white blood cell dilution solution is for research use only and is not intended for clinical diagnosis.

## Materials Required

1. Fresh whole blood
2. Micropipette
3. Cell counting plate
4. Microscope

## Usage

1. Take a small test tube and add 0.38ml of WBC dilution solution.
2. Using a clean and dry micropipette, collect 10μl of peripheral blood, wipe off the excess blood outside the pipette, and add it to the bottom of the WBC dilution solution. Gently release the blood and carefully aspirate the upper clear liquid to wash the pipette 2-3 times. Mix immediately.
3. Wait for complete lysis of red blood cells, indicated by a brownish color of the solution. Mix the solution again and fill the counting chamber, being careful to avoid bubbles or overflow. Let it stand at room temperature for 2-3 minutes to allow white blood cells to settle.
4. Under a low-power microscope, count the number of white blood cells in four corners and 4 large squares. Count the

cells on the lines according to the principle of "count up, not down; count left, not right."

Calculation:

White blood cell count/L = (N÷4)×10×20×10^6 = (N÷20)×10^9

N: Total number of white blood cells in 4 large squares

÷4: Average number of white blood cells in each large square (0.1μl)

×10: Conversion of volume from 0.1μl to 1.0μl

×20: Blood dilution factor

×10^6: Conversion from 1μl to 1L.

## Notes

1. Avoid excessive squeezing during blood collection, and ensure proper depth of needle insertion.

2. Keep the small test tube and counting plate clean to avoid cell misidentification.

3. Within the reference range, the cell count should not differ by more than 8 cells between large squares, and the difference between two repeated counts should not exceed 10%.

4. If the number of white blood cells is too high, increase the dilution factor; if the number is too low, count the white blood cells in 8 large squares or collect a larger blood sample.

5. For your safety and health, please wear lab coat and disposable gloves while performing the procedure.

## Disclaimer

For your safety and health, please wear a lab coat and disposable gloves while handling.