

## Red Blood Cell Diluent (Counting Solution)

Cat #: A-CSH514

Size: 100mL

Storage: Room temperature (12 months)

### Product Description

Red blood cells (RBCs) are the most abundant type of blood cells and serve as the primary means of oxygen transport in most animal bodies. They also possess immune functions. The principle of the Red Blood Cell Dilution Solution (Erythrocyte dilution) is to dilute blood with an isotonic dilution solution by a certain multiple, fill it into a counting chamber, and count the number of red blood cells within a certain volume under a microscope. The number of red blood cells per liter of blood is then calculated. This dilution solution is intended for research purposes only and is not for clinical diagnosis.

### Usage

1. Take a small test tube and add 2.0ml of RBC dilution.
2. Using a clean and dry micropipette, collect 10 $\mu$ l of peripheral blood or anticoagulated blood. After wiping off any excess blood outside the pipette, add it to the bottom of the RBC dilution. Gently release the blood and lightly aspirate the supernatant to wash the pipette 2-3 times. Mix immediately after washing.
3. After mixing, use a clean micropipette to fill the red blood cell suspension into the counting chamber, ensuring no air bubbles or overflow. Let it stand for 2-3 minutes after filling the chamber, then proceed with counting.
4. Under high-power microscopy, count the red blood cells in the four corners of the central large square and the 5 central small squares. Count the cells along the lines following the principle of "counting up, not counting down; counting left, not counting right" for overlapping cells.

Calculation:

Red blood cell count/L = Number of red blood cells in 5 central squares  $\times 5 \times 10 \times 200 \times 10^6$  = Number of red blood cells in 5 central squares  $\times 10^{10}$

×5: Conversion of 5 central squares to 1 large square

×10: Volume of 1 large square is 0.1µl, converted to 1.0 µl

×200: The actual dilution factor of the blood should be 201 times, but using 200 for ease of calculation

×10<sup>6</sup>: Conversion from 1µl to 1L.

## Notes

1. Avoid excessive squeezing during blood collection, and ensure an appropriate depth of needle insertion.
2. Both the small test tube and counting chamber should be clean to avoid impurities and particles being mistaken for red blood cells.
3. Within the reference range, the difference between two red blood cell counts should not exceed 5%.
4. Red blood cell count should not be calculated based on hemoglobin concentration.
5. For your safety and health, please wear a lab coat and disposable gloves while handling.

## Disclaimer

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