Calculation of Cell Counts

Principle

When using the Neubauer hemocytometer for cell counts, it is essential to know the general formula for use if dilution or number of squares is changed.

Safety

All specimens, reagents and controls should be handled as though capable of transmitting infectious diseases. Wear appropriate personal protective equipment when running patient samples or performing scheduled maintenance. Refer to: Policy and Procedures Safety Manual Infection Control and Procedures 11-085-01.

Reagents

C-Chip Disposable Neubauer hemocytometer
Disposable pipet

Procedure

Step	
1	This formula applies to any type of cell count on the hemocytometer. **$\frac{\text{Number of cells counted x depth (10) x dilution}}{\text{Number of large squares counted}}$ = cells/mm3** Example: $\frac{9 \text{ (\#cells)} \times 10 \text{ (depth)} \times 1 \text{ (dilution)}}{9 \text{ (\# large squares)}}$ = 10 cells/mm3
2	Manual cell counts are to be done in ***duplicate and must agree within 10%***. The count on the 2 sides of the counting chamber is then averaged and calculated per the above formula.

Reference

Todd and Sanford, Clinical diagnosis by Laboratory Methods, W.B. Saunders Co., Philadelphia, PA., 14th Ed. Pg. 1165.

Document History Page

Change type: New, Major, Minor etc.	Changes Made to SOP – describe	Name of responsible person/date	Med. Dir. Reviewed/ Date	Lab Manager reviewed/ date	Date change Implemented
Minor	Updated format and revised index number.	Julius Salomon, 7/1/17			