



Immunology First Course

Normality, Dilution, and Titration methods.

Sawa University

جامعة ساوة الاهلية

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قسم تقنيات المختبرات الطبية

Third Stage

المرحلة : الثالثة

محاضرة رقم 3

الجانب العملي

Lecture No

3.

Practical

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Lecture -3- Dilution

Lecture Topics :-

- 1. Type of dilution**
- 2- Ten-fold dilution**
- 3-Two-fold dilution**
- 4- Experiment (1) : Ten-fold dilution**
- 5 -Experiment (2) : Two-fold dilution**

Aims of lecture :-

- Explain the procedure of Two-fold dilution**
- Explain the procedure of ten-fold dilution**
- Explain the differences between types.**

Type of dilution :

- 1. Ten-fold dilution**
- 2. Two-fold dilution**

❖ Ten-fold dilution

A ten-fold dilution reduces the concentration of a solution or a suspension of virus by a factor of ten that is to one-tenth the original concentration.

A series of ten-fold dilutions is described as ten-fold serial dilutions.

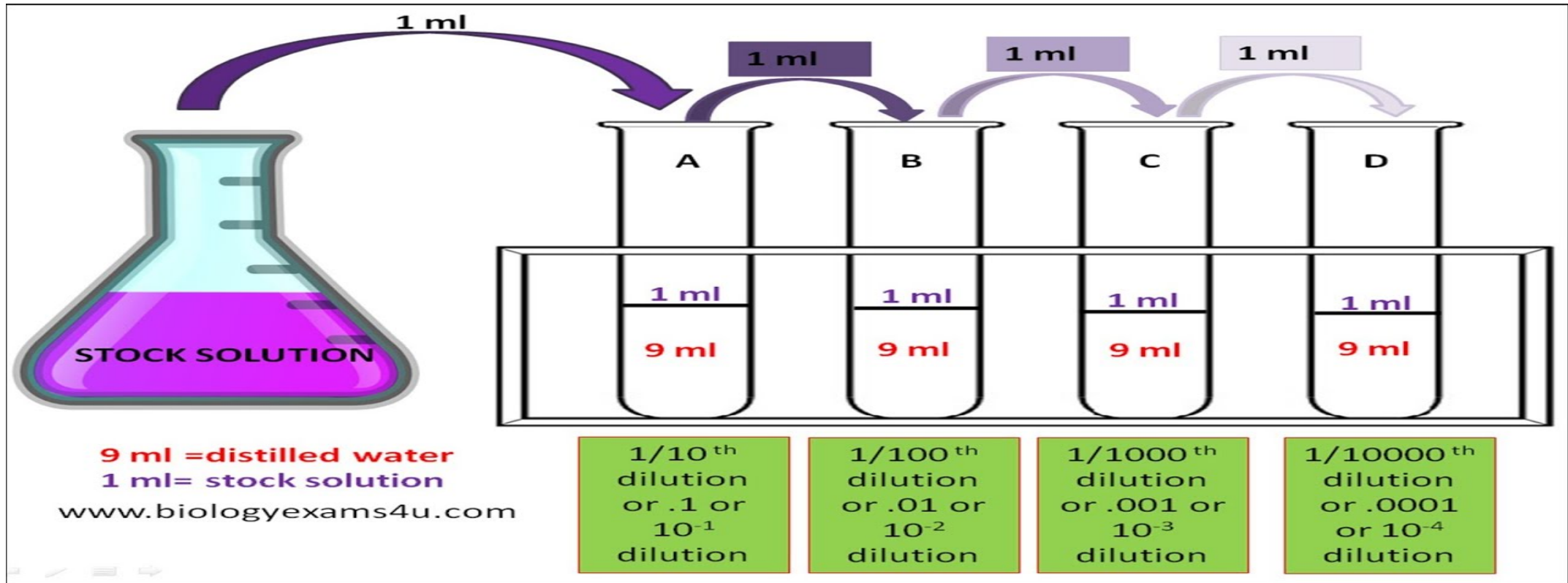


Figure (1): steps of serial ten folded dilution method

2-Two-fold dilution

A two-fold dilution reduces the concentration of a solution by a factor of two.

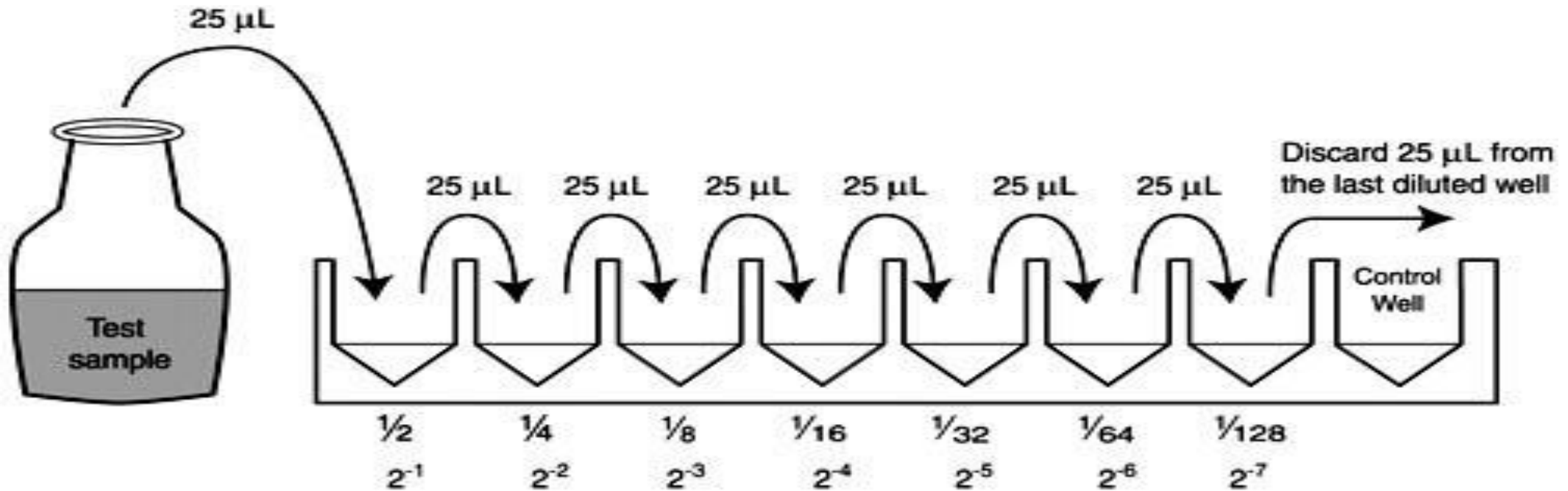


Figure (2): steps of serial Two folded dilution method

Preservation of Antibody & Antigens

Mode of storage :

1- physical preservation methods

a) Short-term storage:

Refrigeration : in freezer at 2°C, 4°C , 8°C for (1_2) weeks

b) long-term storage:

1. Ultra Low Temperature Freezing : stored sera by deep freezing, a core temperature below -70°C should be maintained.

2. Chemical preservation methods :-

1- Formalin preservation can be used for specimens for histological examination and for fluid-preserved specimens.

2-Alcohol is useful for long-term storage of tissue already preserved in formalin because it does not harden the tissue excessively . A whole animal can also be preserved in a container of alcohol (70-90%).

3. Preventing contamination with sodium azide : To prevent microbial contamination, sodium azide can be added to an antibody preparation to a final concentration of 0.02% (w/v).

Any questions?

*Thank
You*