

Motility - Interpretation of Demonstration Images

Experiment 4 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To recognise motility evidence from supplied videos or images.

Principle

Directional movement of cells must be distinguished from random Brownian motion and movement caused by liquid drift.

Requirements

- Instructor-prepared fixed slides, labelled images, demonstration records or coded teaching data for this practical.
- Activity form, microscope for prepared slides where applicable and calculator.

Procedure

1. Identify the teaching material

Record the slide, image or data code, method name and the assigned comparison. Use prepared material and supplied results for this exercise.

2. Review the image sequence

Observe the same field across the supplied sequence and mark the movement of several cells.

3. Compare motion

Distinguish purposeful displacement, random vibration and common movement of the whole field.

4. Assess the supplied motility result

Compare the observation with the assigned positive and negative controls; record uncertainty rather than forcing a positive result.

5. Assess controls and limitations

Confirm the meaning of the positive, negative, blank or process controls supplied. State which conclusions the results support and which require additional evidence.

6. Complete the record

Enter observations separately from interpretations. Record units, method conditions given with the data and the instructor-reviewed conclusion.

Pharmaceutical Microbiology

Observations and Record

Record component	Entry
Video / image code	_____
Observed displacement	_____
Brownian motion / drift evidence	_____
Control comparison	_____
Motility conclusion	_____

Result

Material / data code: _____. Observed result: _____. Control assessment: _____. Interpretation and limitation: _____.

Precautions

- This activity uses prepared material and data interpretation; it is not a live microbial culture or pathogen-handling procedure.
- Keep morphological, quantitative and clinical interpretations separate.
- Use the method-specific assigned quality controls and current interpretive criteria where relevant.

Viva Questions and Answers**1. What is Brownian motion?**

Random movement associated with collisions in the surrounding fluid; it does not establish active motility.

2. Why inspect several cells?

One moving object may be an artefact or may not represent the population.

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