Microscopic Study of Epithelial Tissue

Experiment 3 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To recognise epithelial tissue in prepared histological sections.

Principle

Tissue identification links cell form and tissue arrangement to function. Closely packed cells arranged in sheets on a basement membrane with relatively little extracellular matrix.

Requirements

- Authenticated prepared slides
- Compound microscope and labelled drawing sheet

Procedure

1. Survey

Focus at low power and identify a representative intact region.

2. Examine

Identify simple squamous, cuboidal and columnar examples, and a stratified epithelium on the supplied slides.

3. Compare

Compare the assigned section with another tissue type and note the differences.

4. Draw

Draw a representative field and label: Cell shape, number of layers, free surface and basement-membrane boundary.

5. Interpret

Relate the observed structure to a lining or covering function; thickness and specialised surfaces fit local function.

Observations and Record

Feature	Observation
Slide / stain / magnification	_____
Cell shape / nuclei	_____
Tissue arrangement / matrix	_____
Diagnostic feature	_____
Structure-function link	_____

Result

The section was recognised as _____ because _____. Magnification: _____.

Precautions

- Start at low power before using higher magnification.
- Do not confuse folds, tears or stain deposits with cell structures.
- Record what is visible rather than copying an atlas drawing as an observation.

Viva Questions and Answers

1. What is the main identifying pattern?

Closely packed cells arranged in sheets on a basement membrane with relatively little extracellular matrix.

2. How does structure relate to function?

A lining or covering function; thickness and specialised surfaces fit local function.

3. Why compare slides?

Comparison reveals which features distinguish one tissue from another.

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