

Lab Practical One

Week 1: Lab Methods and Organelles

Background	2
Microscopic Techniques	2
Organelles and Cytoplasmic Inclusions	2
Labeled Organelle Diagram	4
Mitotic Phases	5
Apoptosis Events	5
Features and Functions	6

Week 1: Lab Methods and Organelles

Background

- **Describe The steps in Tissue Preparation for microscopy:**
 - Fixation:
 - Embedding:
 - Staining:
- **What does H & E Stain?**
- **What does PAS Stain?**
- **Describe Enzyme Histochemistry.**
- **How does Immunohistochemistry work?**

Microscopic Techniques

- **Bright field:**
- **Phase contrast:**
- **Confocal:**
- **Fluorescent:**
- **Scanning Electron Microscopy:**
- **Transmission Electron Microscopy:**

Organelles and Cytoplasmic Inclusions

- **Nucleolus**
 - Structure:
 - Size:
 - Light Microscopic Features:
 - Function:
- **Plasma Membrane**
 - Structure:
 - Size:
 - Light Microscopic Features:
 - Function:
- **rER**
 - Structure:
 - Size:

- Light Microscopic Features:
- Function:
- **sER**
 - Structure:
 - Size:
 - Light Microscopic Features:
 - Function:
- **Golgi Apparatus**
 - Structure:
 - Size:
 - Light Microscopic Features:
 - Function:
- **Secretory Vesicles**
 - Structure:
 - Size:
 - Light Microscopic Features:
 - Function:
- **Mitochondria**
 - Structure:
 - Size:
 - Light Microscopic Features:
 - Function:
- **Endosomes**
 - Structure:
 - Size:
 - Light Microscopic Features:
 - Function:
- **Lysosomes**
 - Structure:
 - Size:
 - Light Microscopic Features:

- Function:

- **Peroxisomes**

- Structure:
- Size:
- Light Microscopic Features:
- Function:

- **Cytoskeletal Elements**

- Structure:
- Size:
- Light Microscopic Features:
- Function:

- **Ribosomes**

- Structure:
- Size:
- Light Microscopic Features:
- Function:

- **Glycogen**

- Structure:
- Size:
- Light Microscopic Features:
- Function:

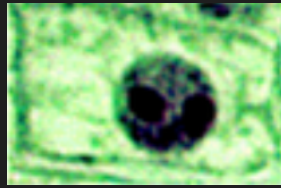
- **Lipid Droplets**

- Structure:
- Size:
- Light Microscopic Features:
- Function:

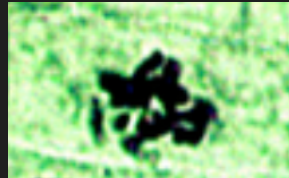
Labeled Organelle Diagram

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Mitotic Phases



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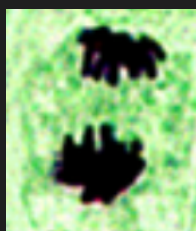
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Apoptosis Events

- DNA fragmentation:
- Decrease of cell volume:
- Membrane Blebbing:
- Formation of apoptotic bodies:

Features and Functions

- **Stratified squamous epithelium:**

- Features:
- Functions:

- **Simple cuboidal epithelium:**

- Features:
- Functions:

- **Skeletal muscle:**

- Features:
- Functions:

- **Cardiac muscle:**

- Features:
- Functions:

- **Smooth muscle:**

- Features:
- Functions: