

Histology MCQs/Cell and Technique (2023/24)

1 How is called degradation of harvested sample of tissue caused by main enzymes of the tissue?

- Autolysis
- Apoptosis
- Autophagy
- Autonomy

2 Why are some hematoxylin called "iron"?

- Used embedding medium contains iron
- Used fixative fluid contains iron
- Used hematoxylin is steel-blue
- Used mordant contains iron

3 Which structure is stained using PAS reaction?

- DNA
- RNA
- Glycogen only
- All polysaccharides

4 All but one structure are eosinophilic. Which is not?

- Mitochondria
- Ribosomes
- Cytoplasm
- Collagen

5 Which basic (overview) staining method is the most common?

- AZAN (aka Heidenhein's trichromatic method)
- Hematoxylin-Eosin
- Mallory trichrome
- Masson trichrome

6 Which color has collagen if the yellow Masson trichrome is used?

- Yellow
- Black
- Pink
- Red

7 Which color have nuclei if the AZAN is used?

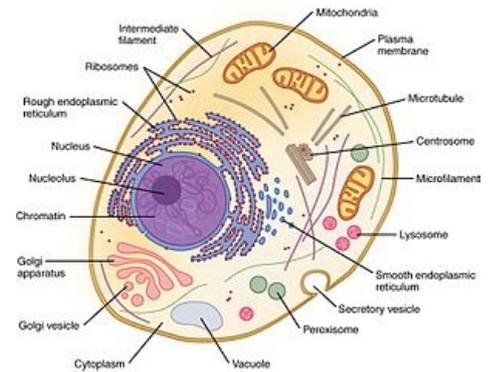
- Magenta
- Black
- Blue
- Red

8 Which method of physical fixation is the most common?

- Irradiation by UV light
- Microwaving
- Freezing
- Heating

9 How thick are slices of the specimen for the light microscopy?

- 4 - 10 mm
- 1 - 5 mm



- 4 - 10 μm
- 1 - 5 μm

10 Which embedding medium is the most common for processing for the light microscopy?

- Water insoluble resin
- Water soluble resin
- Parafin-wax
- Gelatine

11 Which tool is necessary if the label in used immunohistochemistry is a fluorescent dye?

- Atomic force microscope
- Electron microscope
- Source of UV light
- Cryotome

12 What is necessary if the Sudan IV dye is applied?

- Preserve the monosaccharides inside the specimen
- Preserve the fat inside the specimen
- Keep the specimen frozen
- Keep the specimen warm

13 Where take places enzymes of the respiratory chain?

- Intermembranous mitochondrial space
- Inner mitochondrial membrane
- Outer mitochondrial membrane
- Inner mitochondrial matrix

14 Which type of cytoskeleton is used by the dynein?

- Dynein is not associated with the cytoskeleton
- Intermediate filaments
- Microfilaments
- Microtubules

15 Which of following molecules can pass the membrane easily without the transporter?

- Fatty acid
- Glucose
- Oxygen
- Water

16 How is called programmed cell death?

- Autolysis
- Autophagy
- Apoptosis
- Autonomy

17 How is called phase of the cell cycle in which are non-proliferating cells like neurons?

- G0
- G1
- G2
- G3

18 Which cells contain huge amount of a lipofuscin?

- Intensely dividing cells
- Immature cells
- Young cells
- Old cells

19 How is called main/immediate template for production of proteins?

- snRNA

- mRNA
- tRNA
- rRNA

20 What is main function of the nucleolus?

- Production of proteasomes
- Production of peroxisomes
- Production of ribosomes
- Production of lysosomes

21 One of following functions is not main function of the Golgi apparatus. Which one?

- Covalent modification of proteins
- Degradation of proteins
- Targeting of proteins
- Glycosylation

22 What is not main function of the smooth endoplasmic reticulum?

- Degradation of xenobiotics
- Synthesis of proteins
- Production of lipids
- Storage of calcium

23 High amount of the euchromatin in a nucleus is a sign of:

- Epigenetical silencing of nearly all genes
- High level of transcription of genes
- Preparation for mitotic division
- Preparation for meiotic division

24 Nuclear envelope is associated with one class of intermediate filaments. Which one?

- Cytokeratines
- Vimentin
- Lamins
- Desmin

25 How are called main structural proteins of chromosomes which are tightly associated with the DNA?

- Histones
- Tubulins
- Lamins
- Actins

26 What is a glycocalyx?

- Layer of nucleic acids associated with outer cell membrane
- There is no structure called glycocalyx in the human body
- Layer of saccharides associated with outer cell membrane
- Layer of lipids associated with outer cell membrane

27 What is main function of aquaporins?

- They are involved in regulation of exocytosis
- They are part of pinocytic vesicles
- They are involved in phagocytosis
- They are channels for water

28 Which cell adhesion is the most important for mechanical cohesivity of cells?

- Zonula occludens (occludent junction)
- Desmosome (macula adhaerens)
- Gap junction (nexus)
- Tight junction

29 Which of following molecules is usually immediate source of energy for biochemical processes?

- Triacylglycerols
- Fatty acids
- Glucose
- ATP

30 How is called first step of mitosis?

- Metaphase
- Telophase
- Prophase
- Anaphase

31 Which type of cytoskeleton is usually associated with gap junctions?

- Gap junction is not associated with cytoskeleton
- Cytokeratins
- Vimentin
- Actin

32 How is called central structure for growth of microtubules?

- Centrosome
- Peroxisome
- Proteasome
- Nucleus

33 Which structure gives rise to the lipofuscin?

- Smooth endoplasmic reticulum
- Golgi apparatus
- Melanosomes
- Lysosomes

34 Which structure is main molecule of the biological membrane?

- Neutral polysaccharides
- Charged polysaccharides
- Lipophilic proteins
- Phospholipids

35 Which is a function of caspases?

- Degradation of macromolecules of dying cell
- Degradation of ingested bacteria
- Degradation of worn-out proteins
- Degradation of damaged DNA

36 Which of following structures is a cell inclusion?

- Granule of glycogen
- Proteasome
- Ribosome
- Centriol

37 Which organelles are abundant in the basal labyrinth (aka basal annealing)?

- Golgi apparatus
- Microfilaments
- Mitochondria
- Ribosomes

38 Which type of cytoskeleton supports microvilli?

- Vimentin filaments
- Microfilament
- Microtubules
- Cytokeratins

39 Which motor protein is responsible for movement of kinocilia (aka cilia)?

- Kinocilia are immotile
- Kinesin
- Dynein
- Myosin

40 Which motor protein is responsible for movement of stereocilia?

- Stereocilia are immotile
- Kinesin
- Myosin
- Dynein

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Links

- List of all tests: Histology MCQs
- Portal:Histology