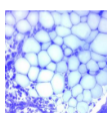
Practice no. 11 – Nerve tissue (deadline do 1. 5. 2020)

1. Identify and describe key morphological structures of a neuron. Use the scheme of PNS neuron in Study materials (or draw your own) and suitable slides of large neurons in Atlases (e.g. pyramidal cells of cerebral cortex, somatomotoric neurons in spinal cord).
2. Schematically (or in a table) classify neurons according to a) morphology (number of processes), b) length of axon, c) position and function in neuronal network, d) type of neurotransmitter.
3. Provide examples of occurrence of individual types of neurons according 2a.
4. What cytoskeletal structure provides axonal transport (see Cytology), and why it is so important to take it to consideration if cytotoxic compounds targeting mitotic spindle are administered to patient?
5. What chromatin state is typical for neurons? Are neurons proteosynthetically active?
6. Graphically schematize Nissl substance and determine what intercellular structure it represents.
7. Using the slide of spinal characterize and graphically schematize the grey and white matter, and highlight structural differences.
8. Classify glial cells in CNS and PNS and describe their functions in detail.
9. Graphically schematize the process of myelination by Schwann cell. What does the term mesaxon mean? What is the structural and functional principle of nodes of Ranvier?
10. Graphically schematize the chemical synapsis and determine key structures that constitute a synapsis.
11. Describe and graphically schematize the structure of hematoencephalic barrier. Is it more permeable than placental barrier?

Recommended study resources:



WWW

presentations in IS