

## Practice 9

## Epithelial tissue

1. Draw an idealized scheme of epithelial cell and indicate the surface domains (apical, basal/basolateral), including the modifications. Use your resources from cytology.
2. Make a table summarizing properties of epithelial and connective tissue. Compare number of cells vs. amount of ECM, morphology of epithelial cells and fibroblasts, vascularization and typical anatomical locations.
3. Graphically schematize covering, trabecular and reticular epithelia. Provide examples of anatomical locations.
4. Graphically schematize individual types covering epithelia. Provide examples of anatomical locations.
5. What does the term “pseudostratified” mean? What is the difference between “pseudostratified” and “stratified” epithelia?
6. Compare the superficial layer of transitional and stratified squamous epithelium, characterize the difference in words and include the description into the scheme in task no. 4.
7. What does the term “mucociliary escalator” mean, where does this process occur and what cell structures are crucial for its function?
8. What do the terms “metaplasia”, “dysplasia”, “hyperplasia” and “hypertrophy” mean? Provide examples of typical locations where epithelial metaplasia can occur.
9. Define the term “basement membrane” and “basal lamina” and schematize their structure.
10. In what organs the epithelial basal laminae can fuse, and what is the functional relevance of such fusion? Provide the functional examples.
11. What structure enables attachment of epithelial cells to basal lamina? What is the “anoikis”?
12. When do the cells with epithelial characteristics first appear in embryonic development?

Recommended study materials: Presentations from practices and lectures, Atlas of Histology (online), Atlas of Cytology and Embryology (online), Junqueira's basic histology.