

# EPITHELIAL TISSUE

according to the cell arrangement: **sheet (membranous)**, trabecular, reticular  
according to the function: **covering**, secretory, absorptive, respiratory, sensory,  
myoepithelial cells

# Covering epithelium - classification

according to the number of cell layers and shape\* of cells in the most superficial layer

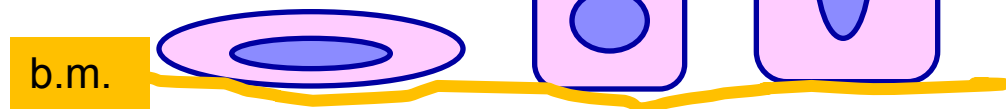
## Simple

- Simple squamous
- Simple cuboidal
- Simple columnar
- Pseudostratified columnar

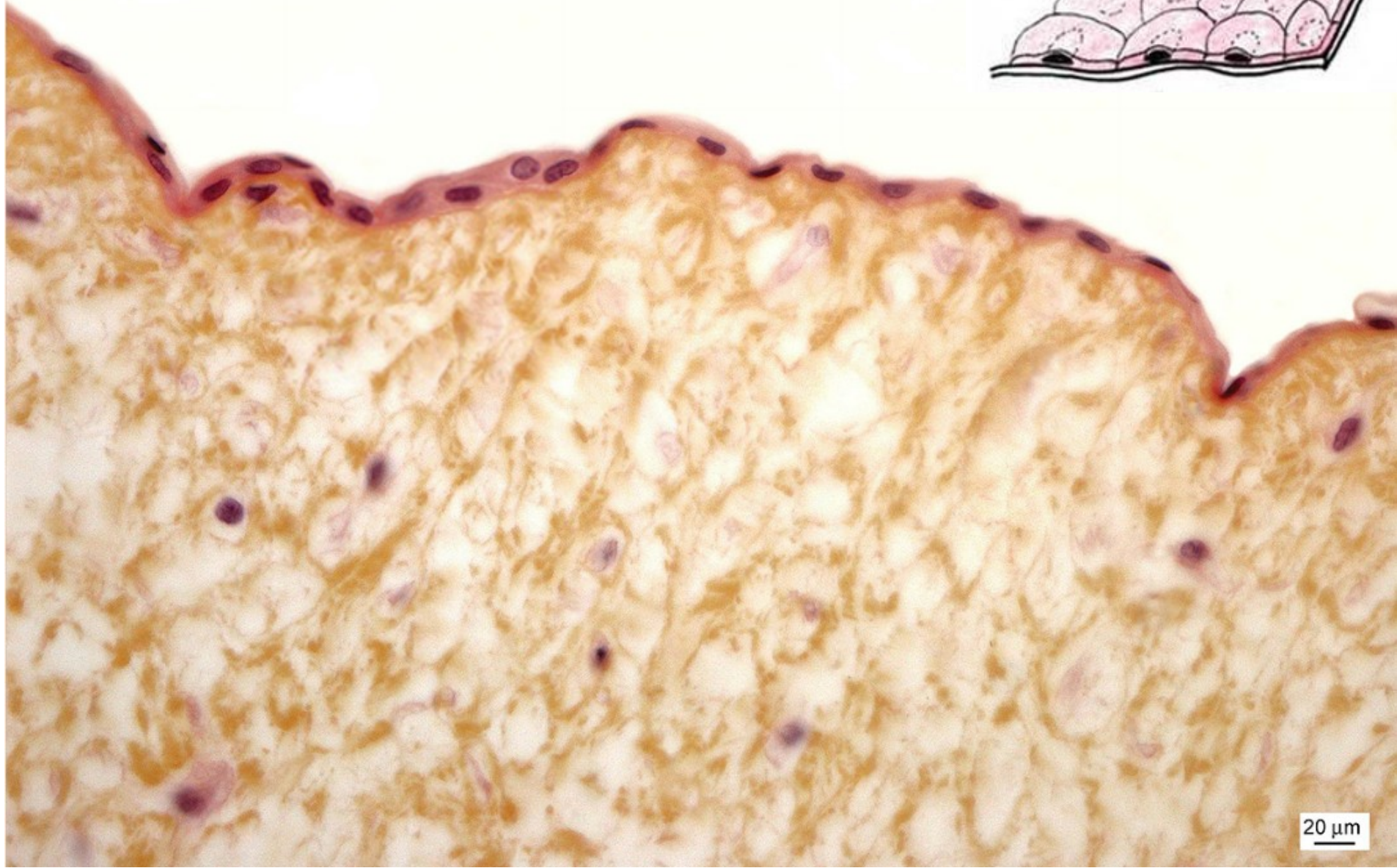
## Stratified

- Stratified squamous (nonkeratinized)
- Stratified squamous keratinized
- (Stratified cuboidal)
- Stratified columnar
- Transitional

\* cell membrane is usually not seen very well;  
shape of nuclei helps us determine shape of cells

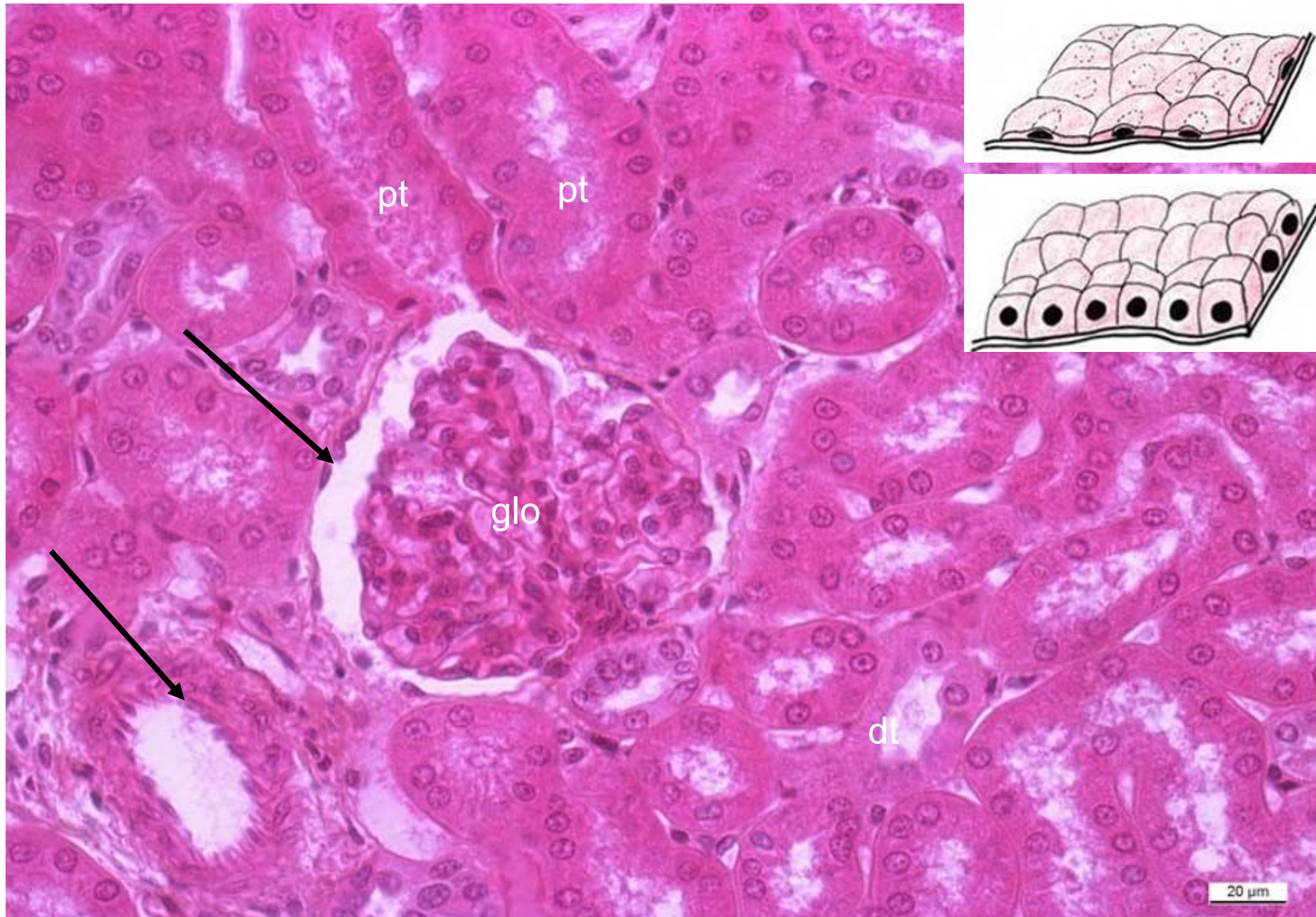


# Simple squamous epithelium

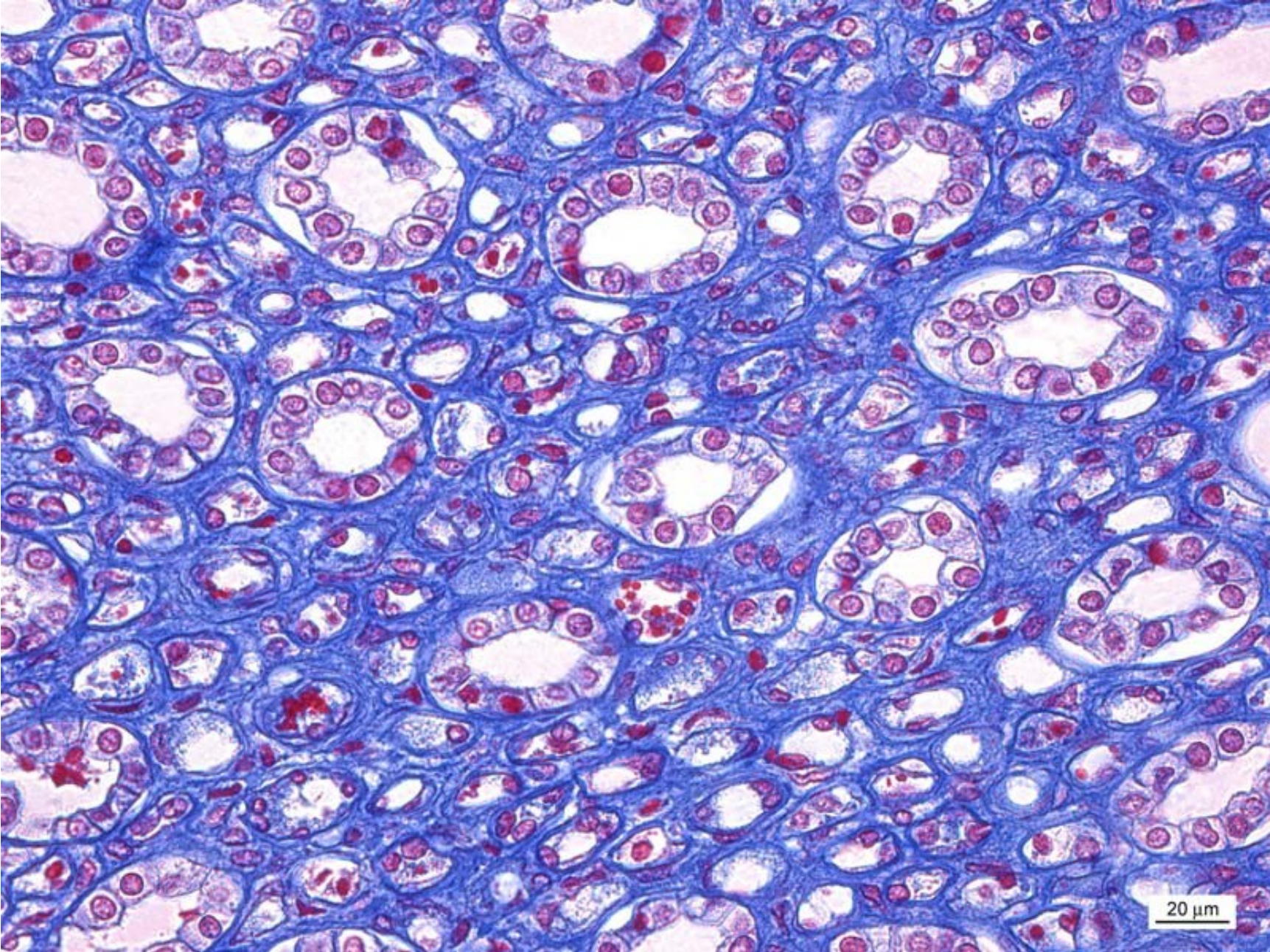


20  $\mu$ m

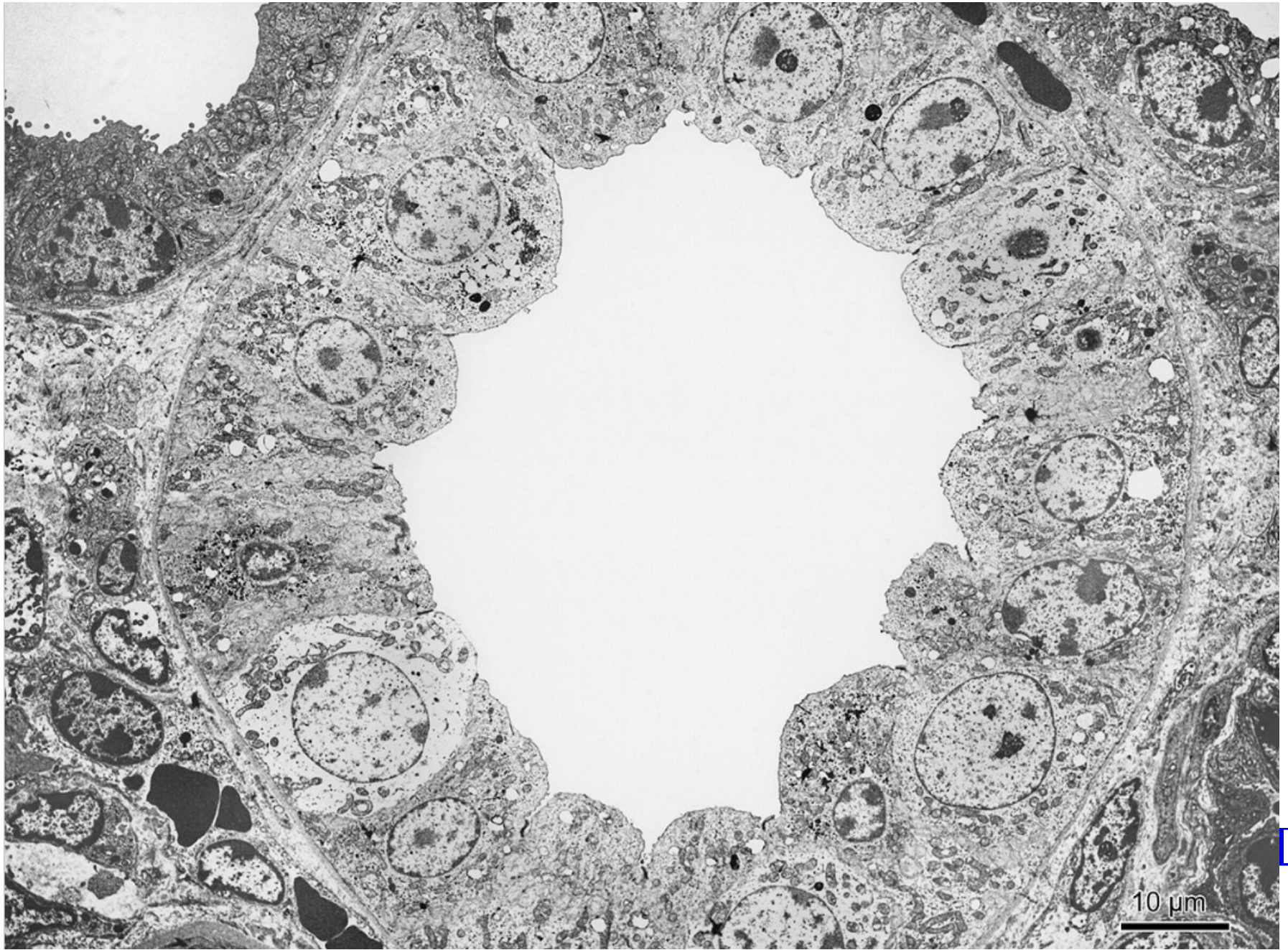
# Simple squamous and simple cuboidal epithelium – kidney (cortex)



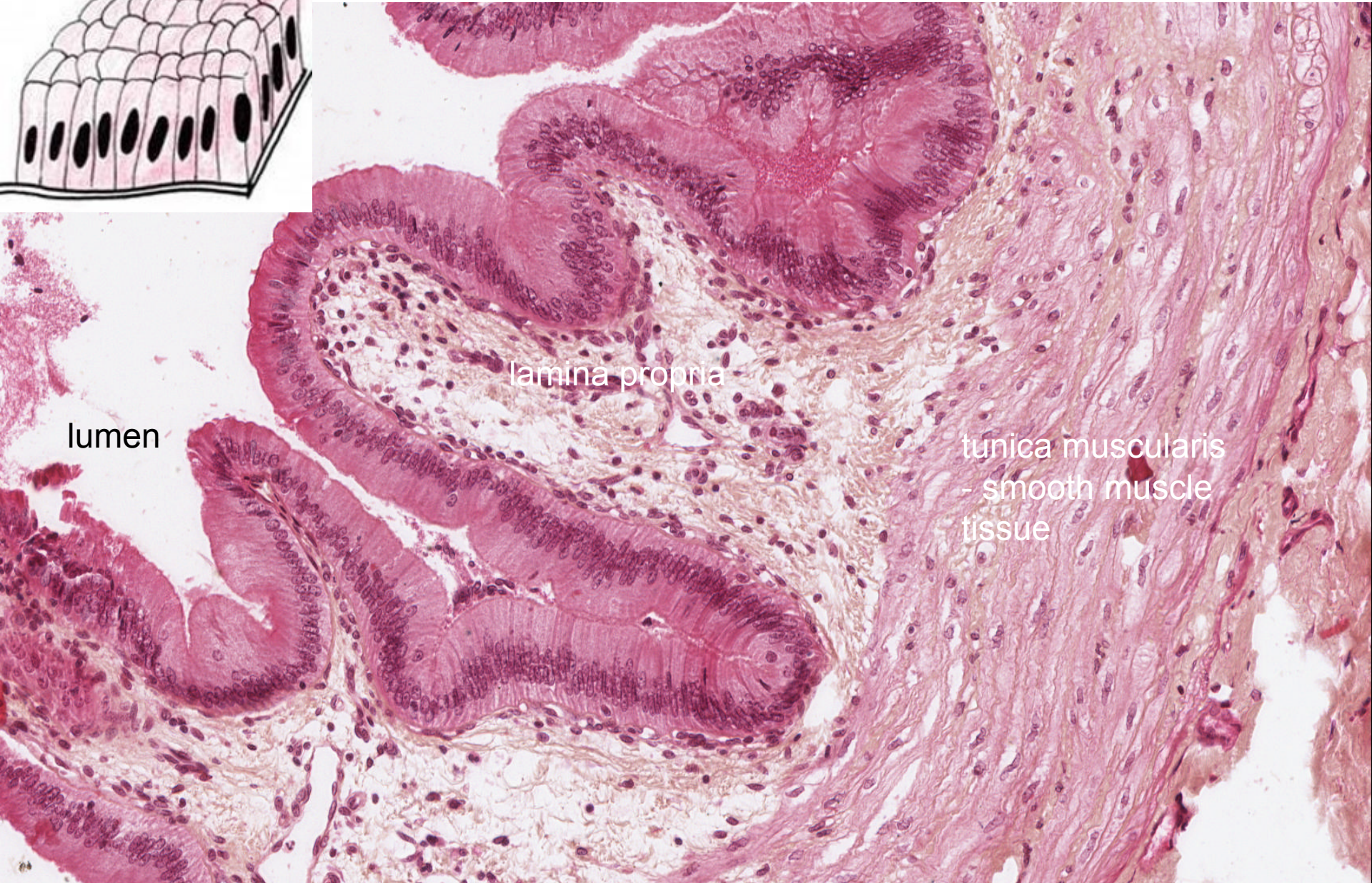
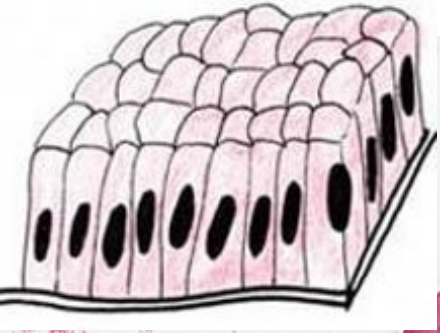
Simple squamous and cuboidal epithelium – kidney (*medulla*)



# Simple low columnar epithelium - kidney



# Simple columnar epithelium – *vesica fellea*

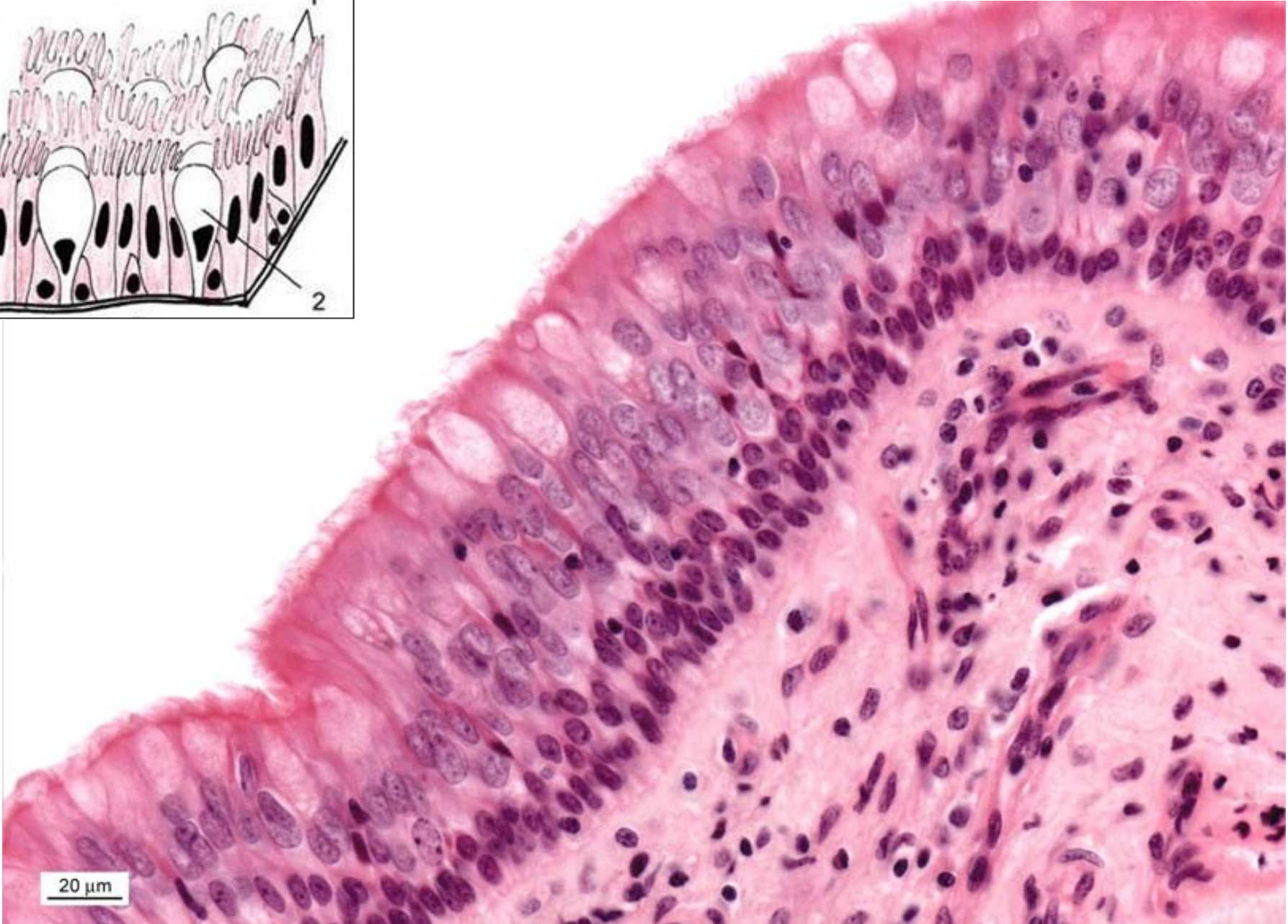
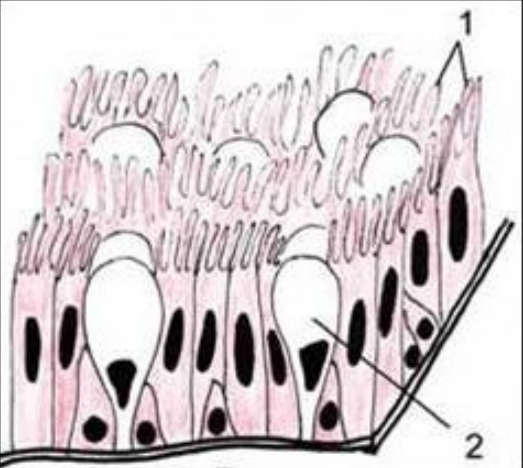


lumen

lamina propria

tunica muscularis  
- smooth muscle  
tissue

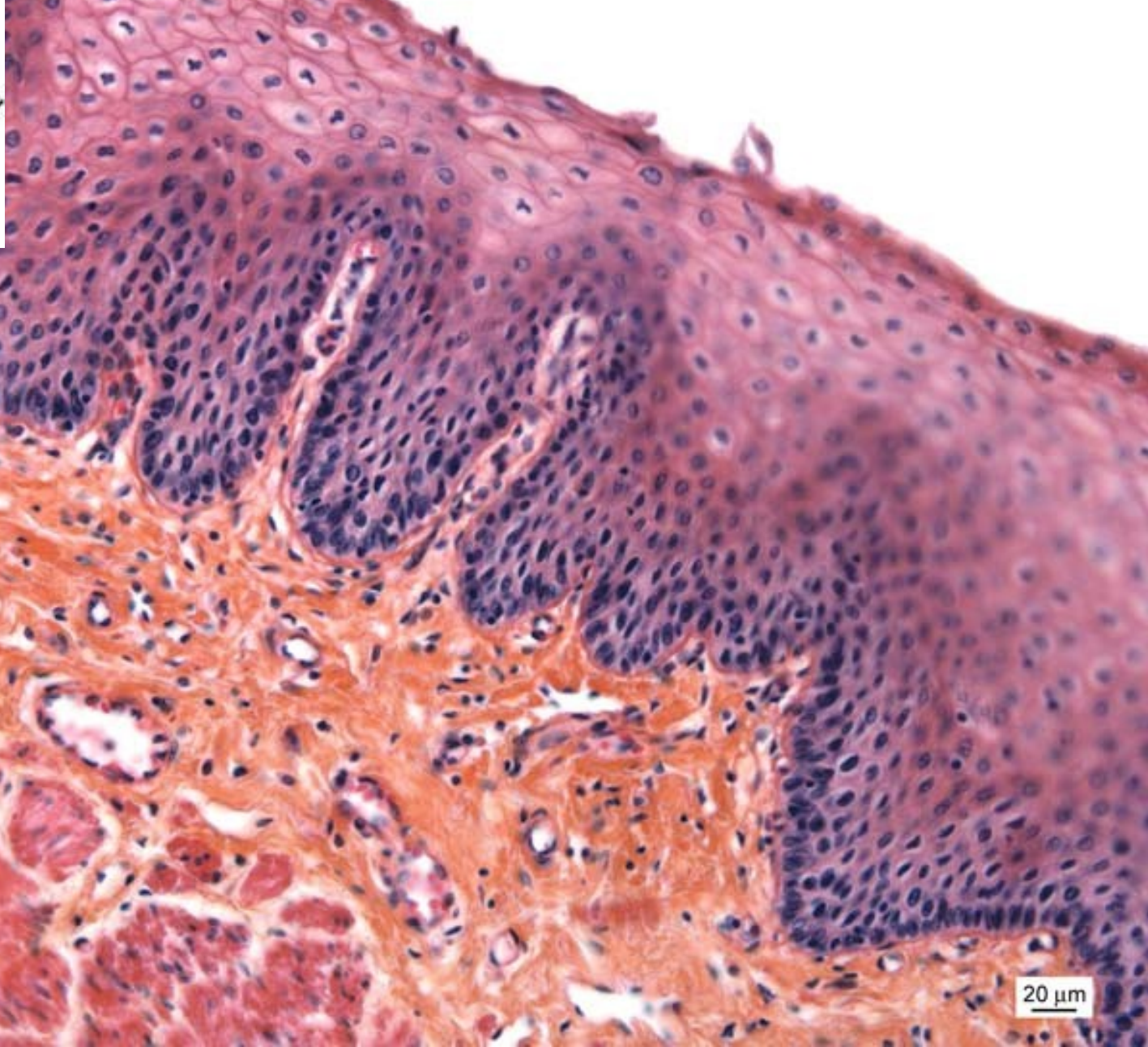
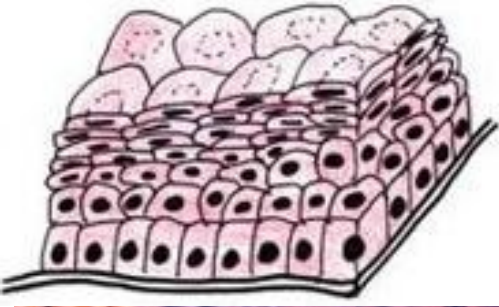
# Pseudostratified columnar epithelium with cilia - *trachea*



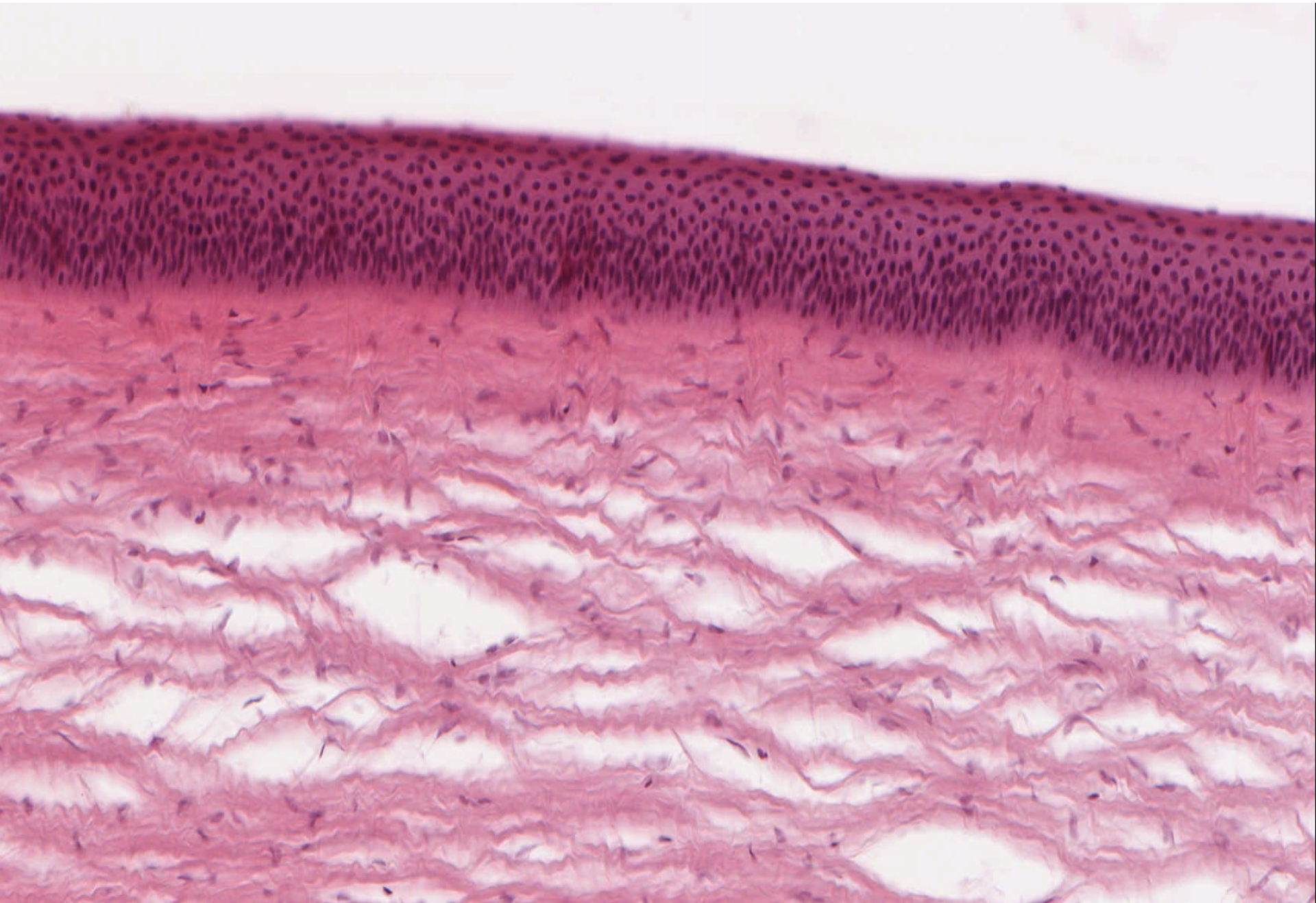
20 μm



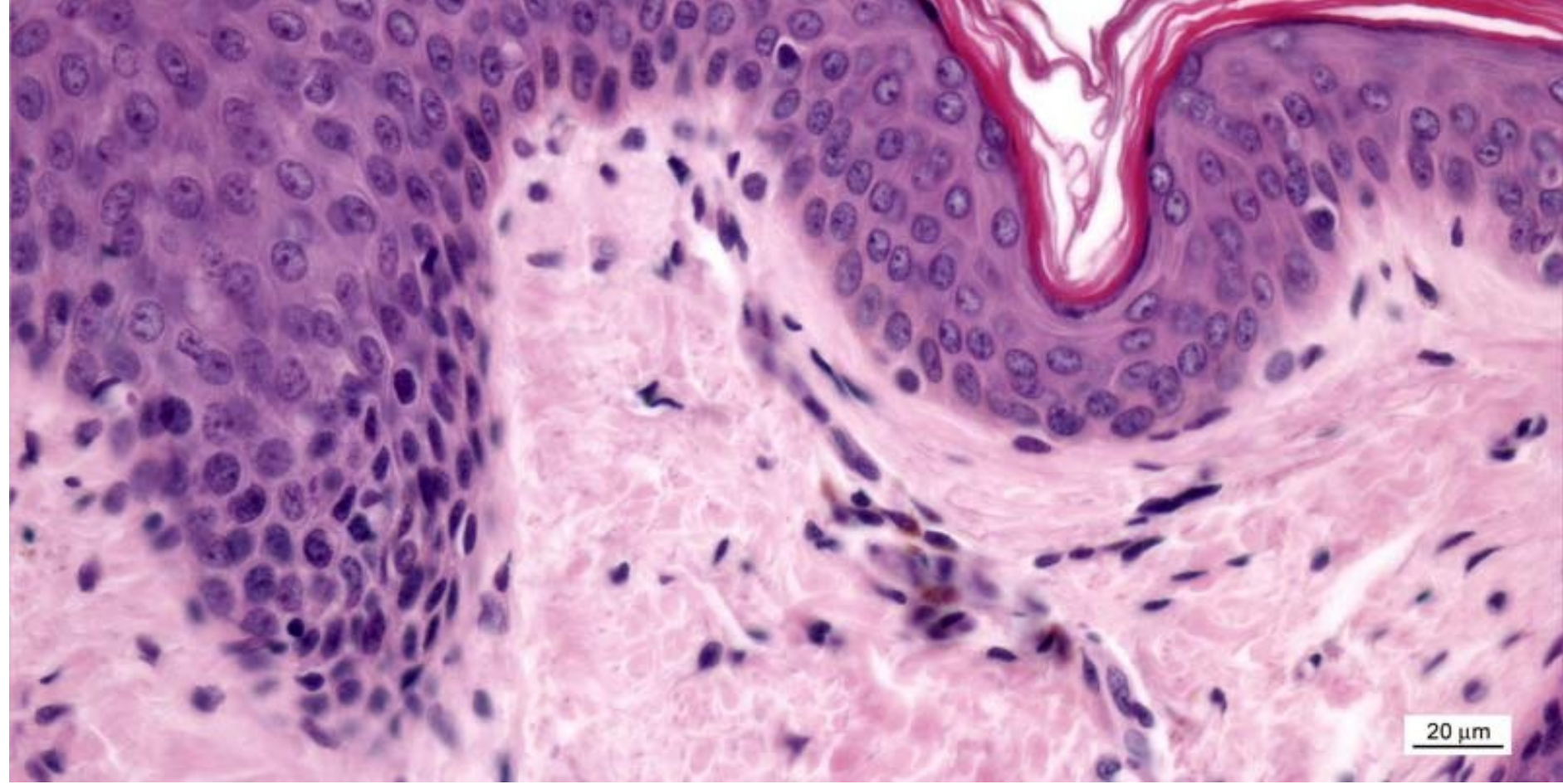
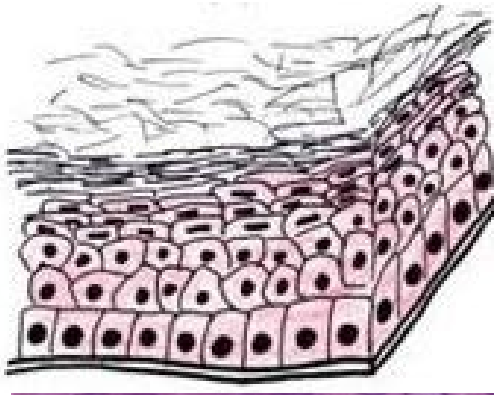
# Stratified squamous epithelium - oesophagus



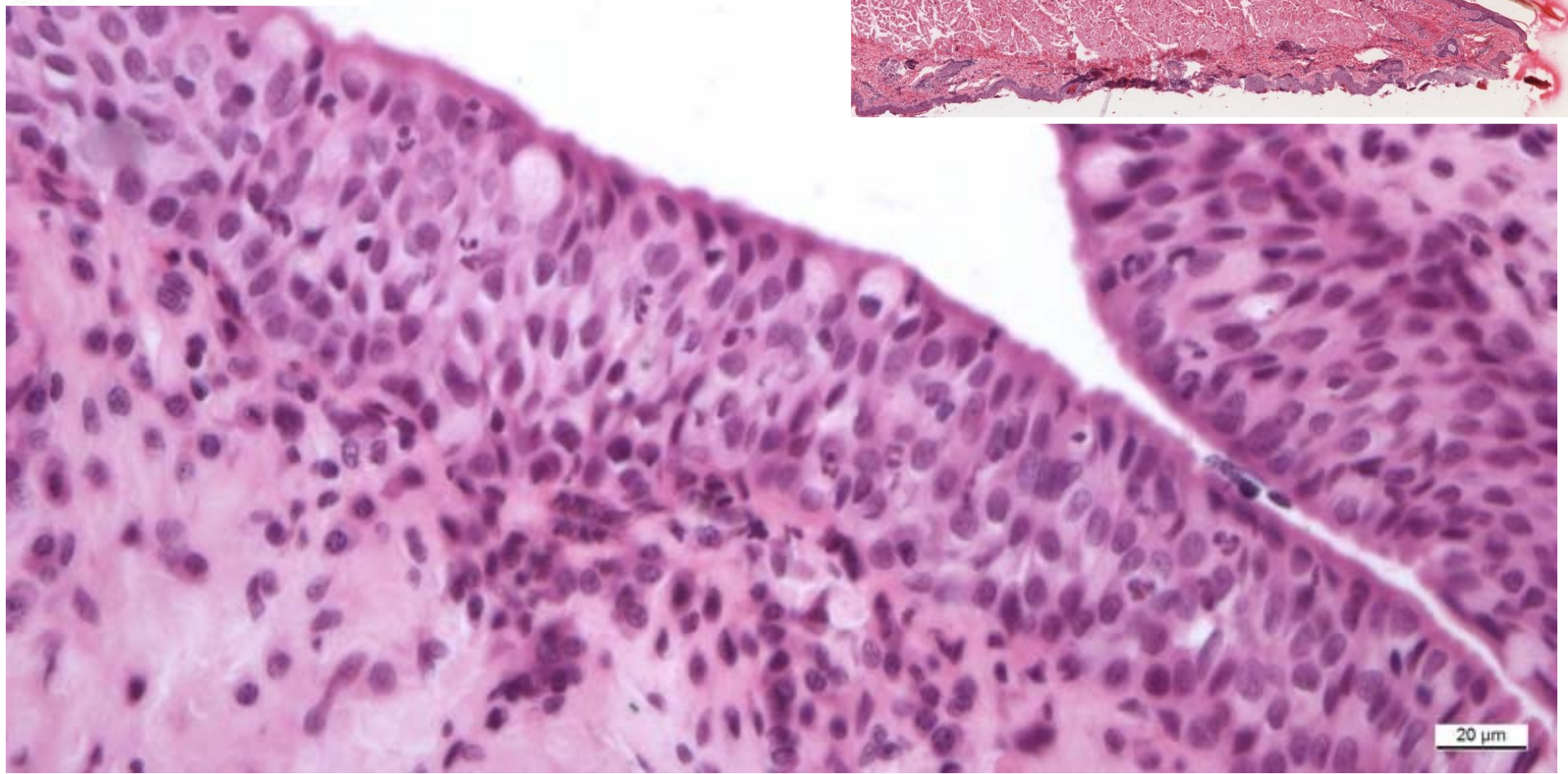
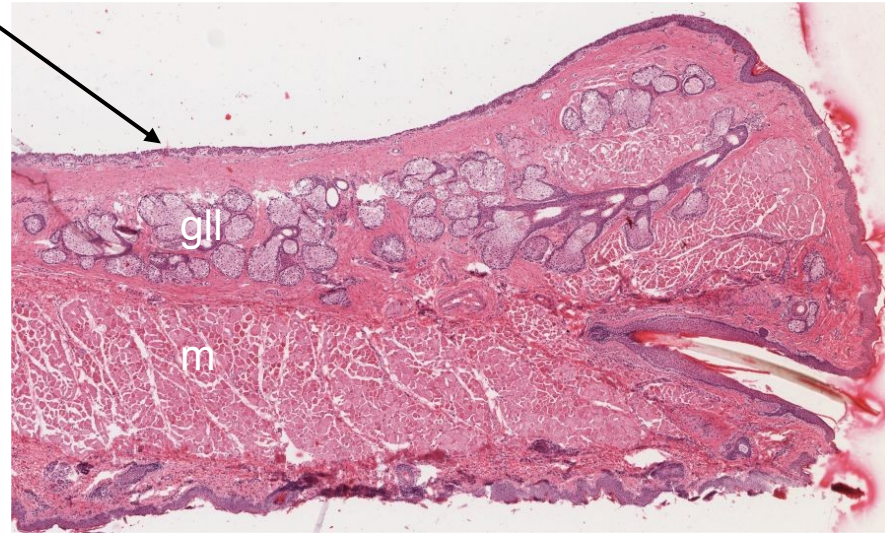
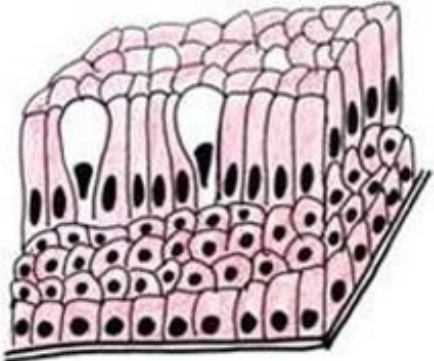
# Stratified squamous epithelium - *cornea*



# Stratified keratinized squamous epithelium - *epidermis*



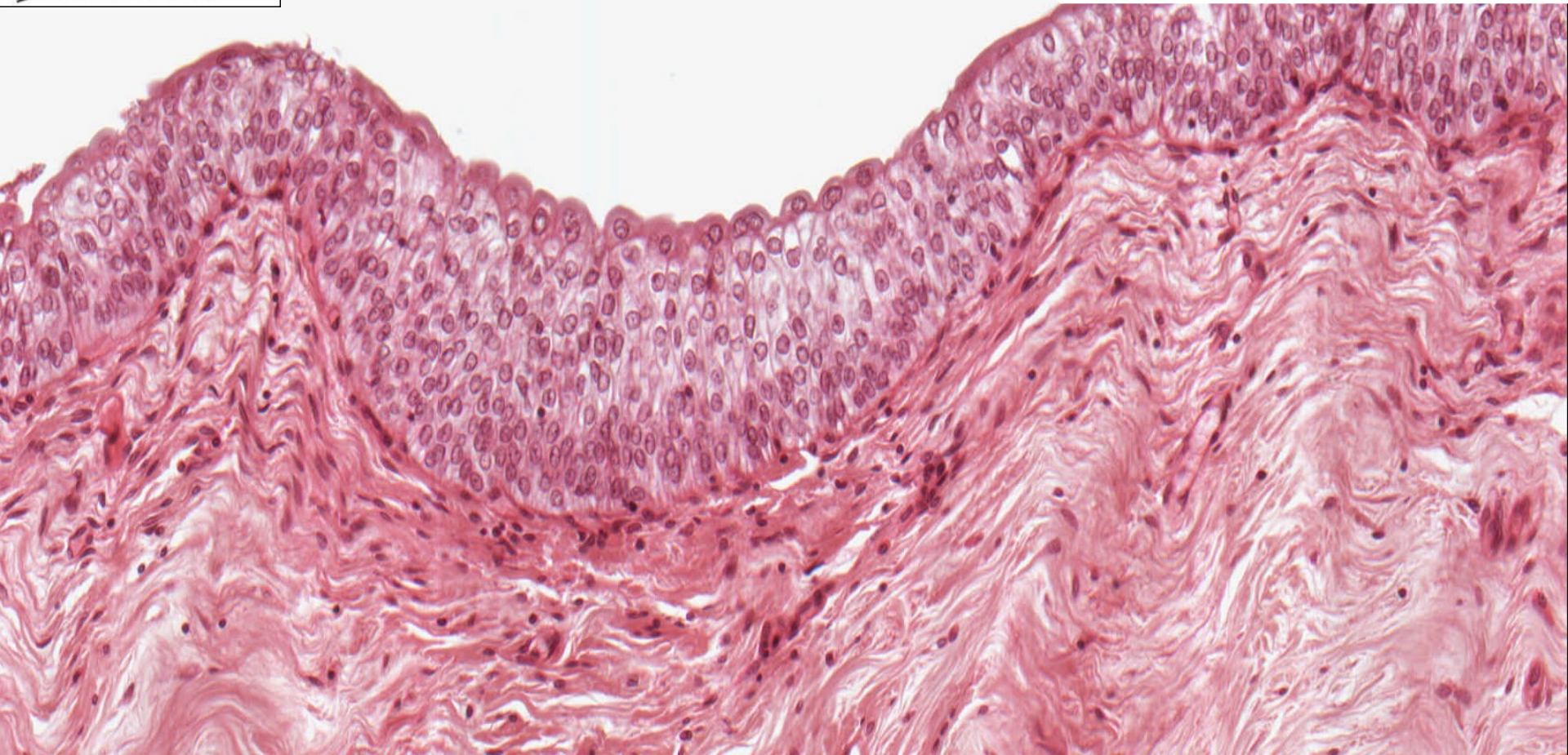
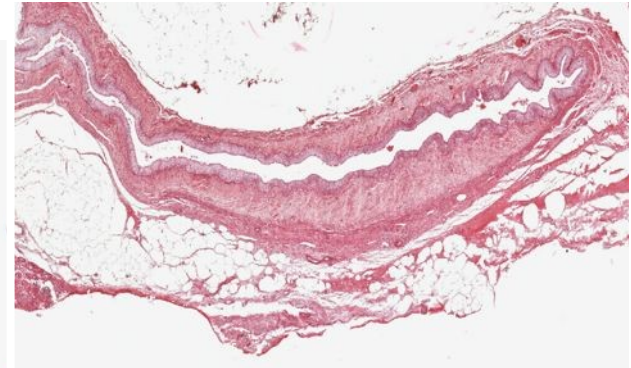
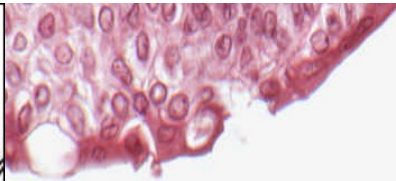
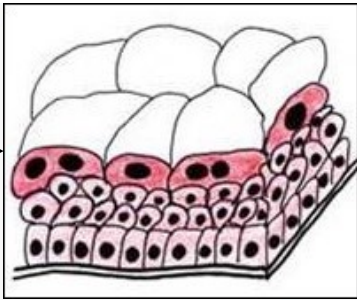
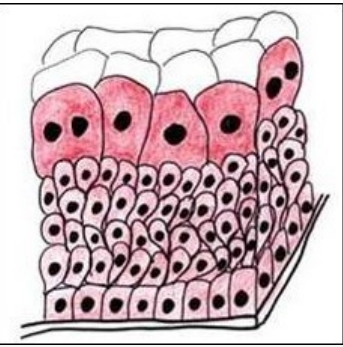
# Stratified columnar epithelium (*palpebra – conjunctiva*)



# Transitional epithelium - *ureter*



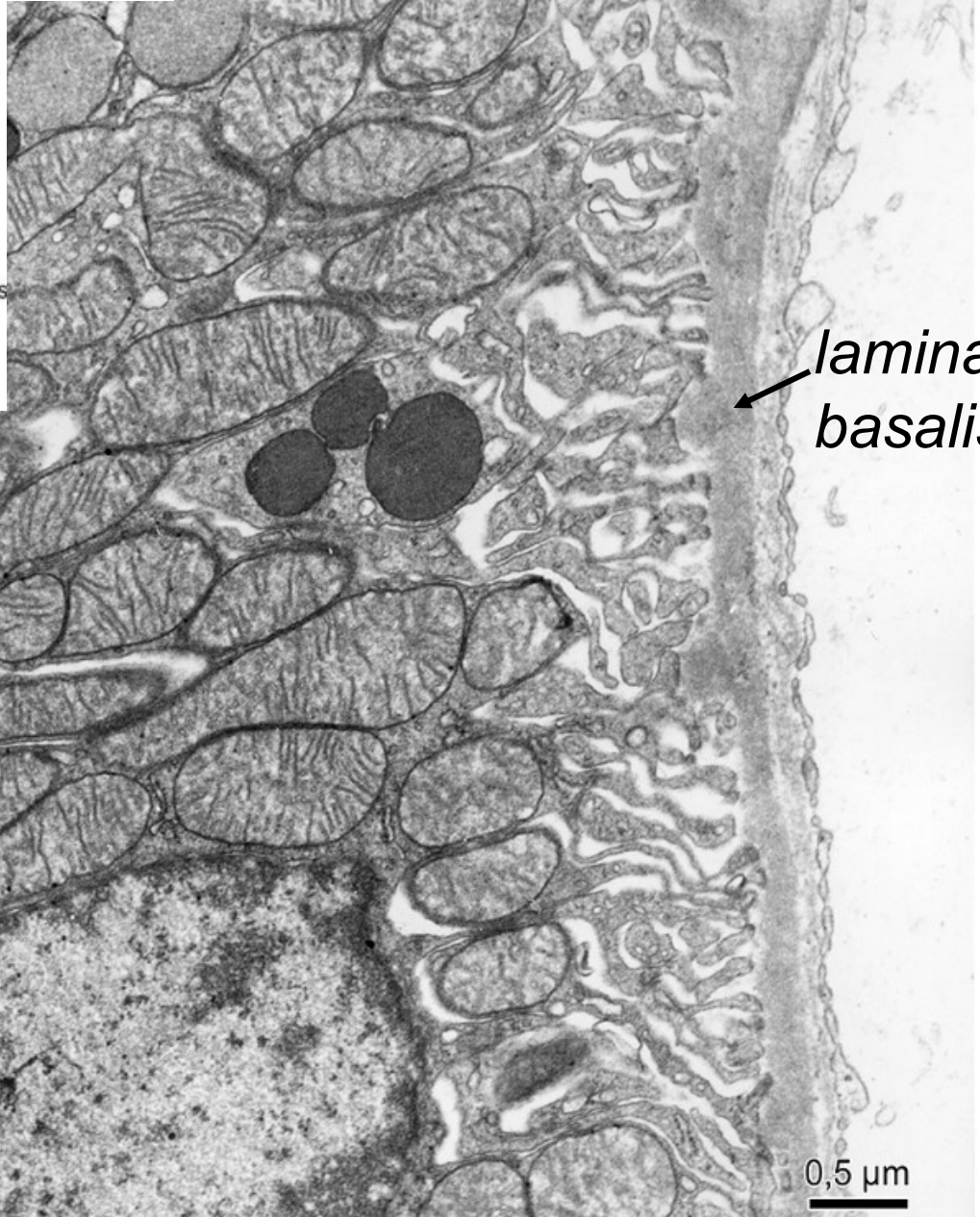
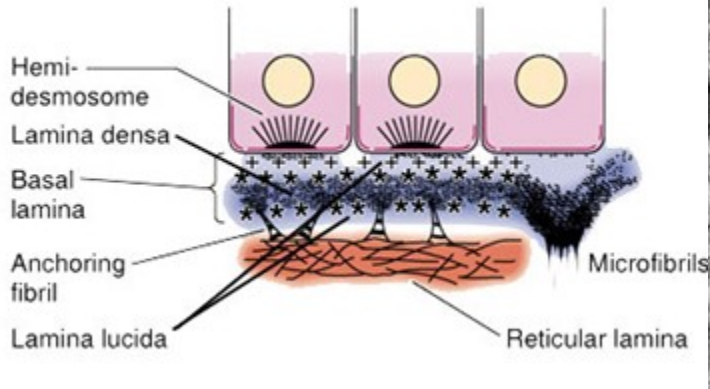
# Transitional epithelium – *calyx renalis*



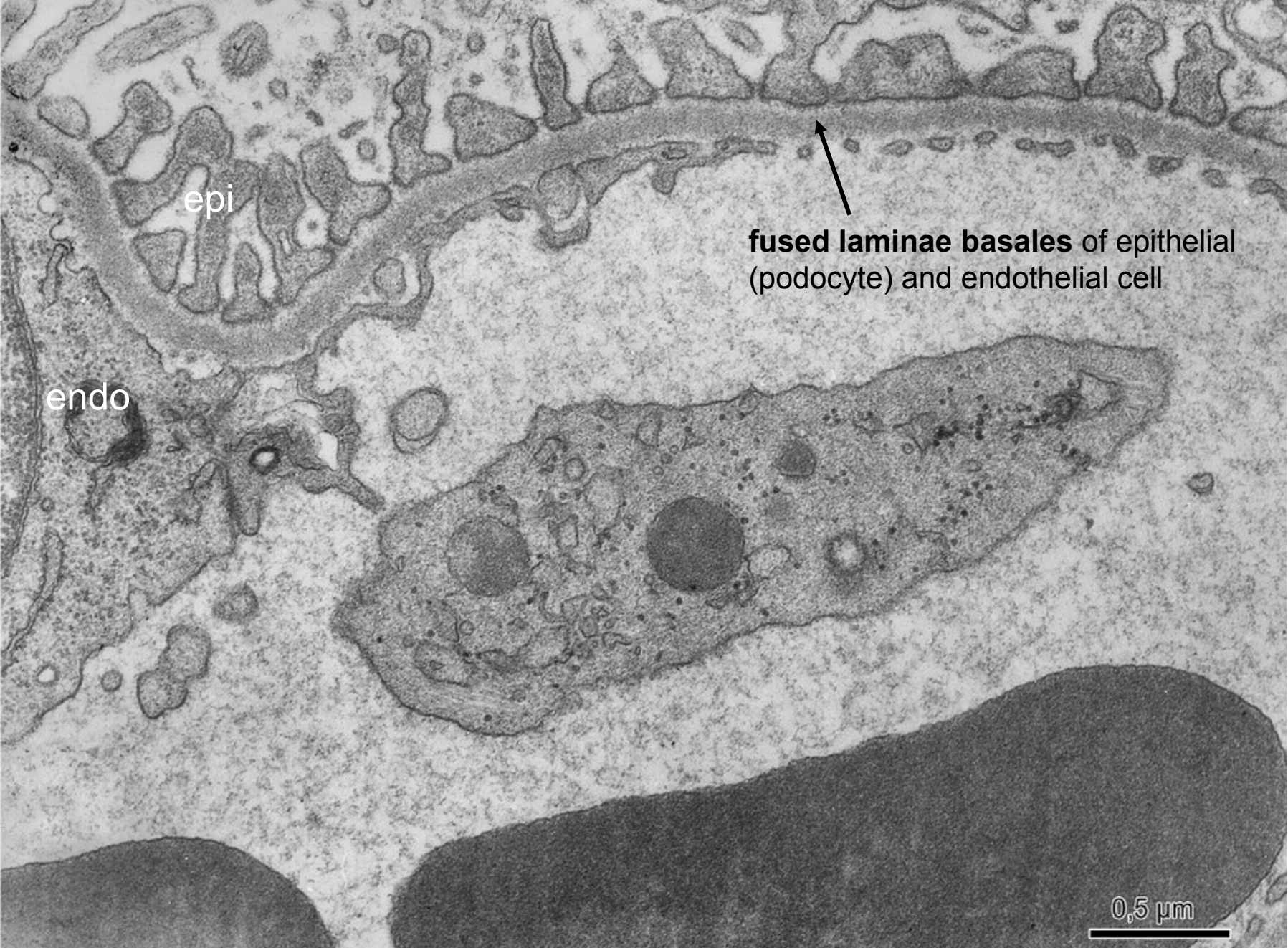
# Basement membrane

(0,5 - 1  $\mu\text{m}$ )

- *lamina basalis*
- *lamina fibroreticularis*



# Glomerular basement membrane





# EPITHELIAL TISSUE

## Slides:

Simple squamous and cuboidal epithelium (30, 31. Ren)

Simple columnar epithelium (22. Vesica fellea)

Pseudostratified columnar epithelium with cilia (27. Trachea)

Stratified squamous (nonkeratinized) epithelium (11. Esophagus)

Stratified squamous keratinized epithelium (70. Skin from axilla)

Transitional epithelium (32. Renal calyx, 33. Ureter)

Stratified columnar epithelium (91. Palpebra)

## Atlas EM:

Surface of epithelial cells – microvilli, brush border, striated border (16, 24-26, 62-63)

Surface of epithelial cells – cilia (20, 21, 23, 60)

Lamina basalis (26, 27, 57), basal labyrinth (27)

Simple low columnar epithelium (18)

Alveolar epithelium (55, 61)