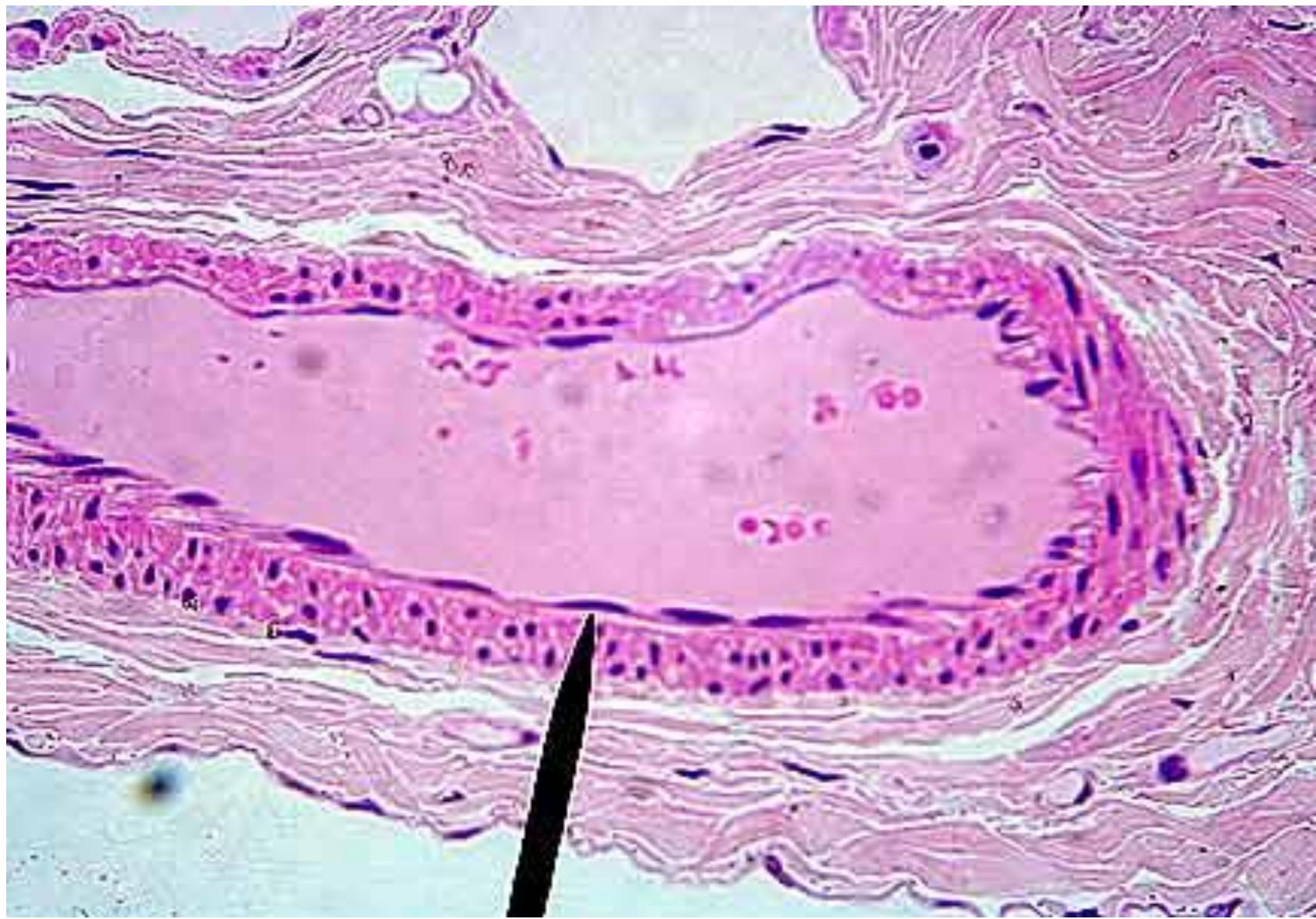


# Practical Sections for Final Histology Exam

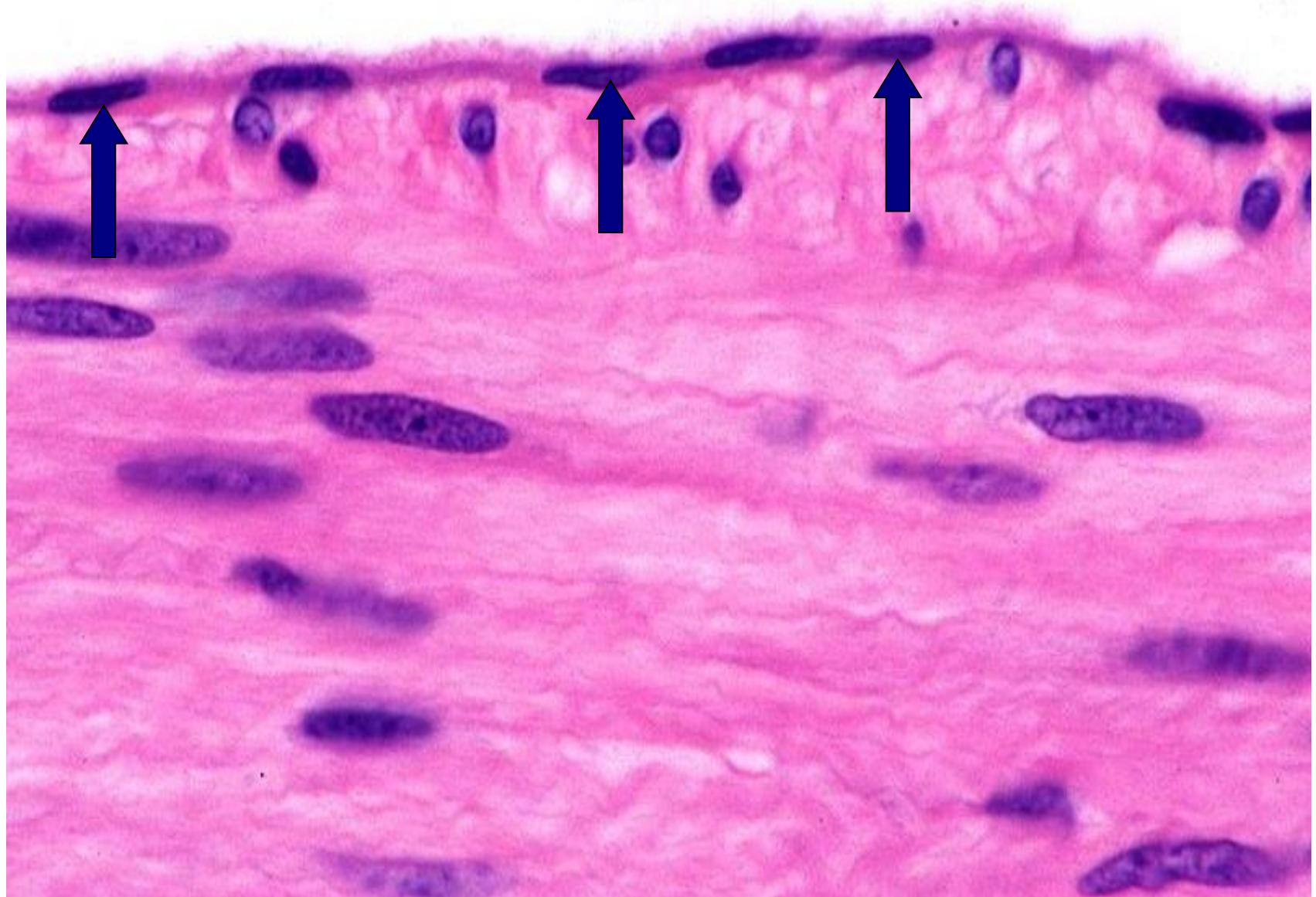
First-year medical students

# Epithelium



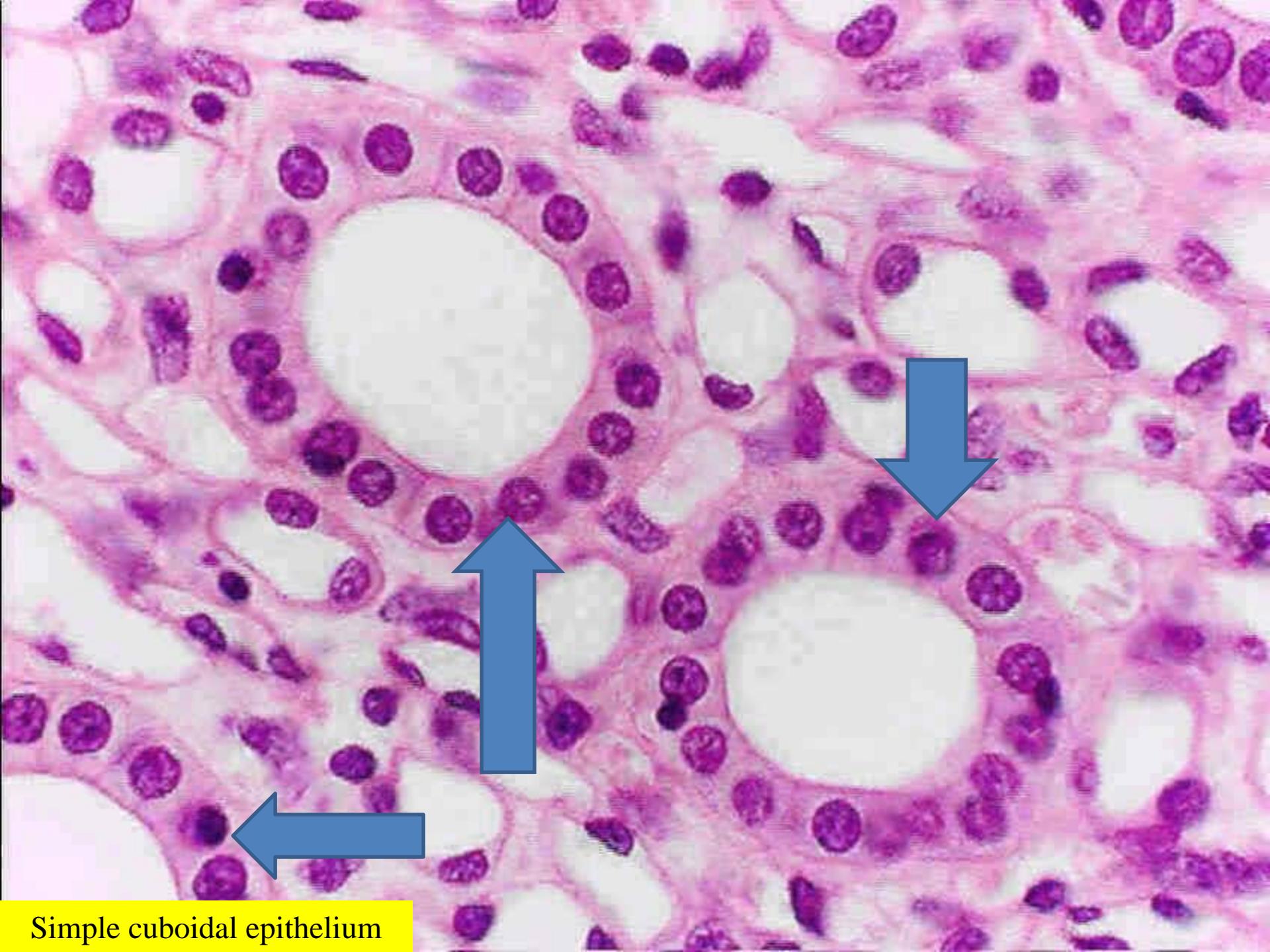
## Endothelium

Simple squamous epithelium

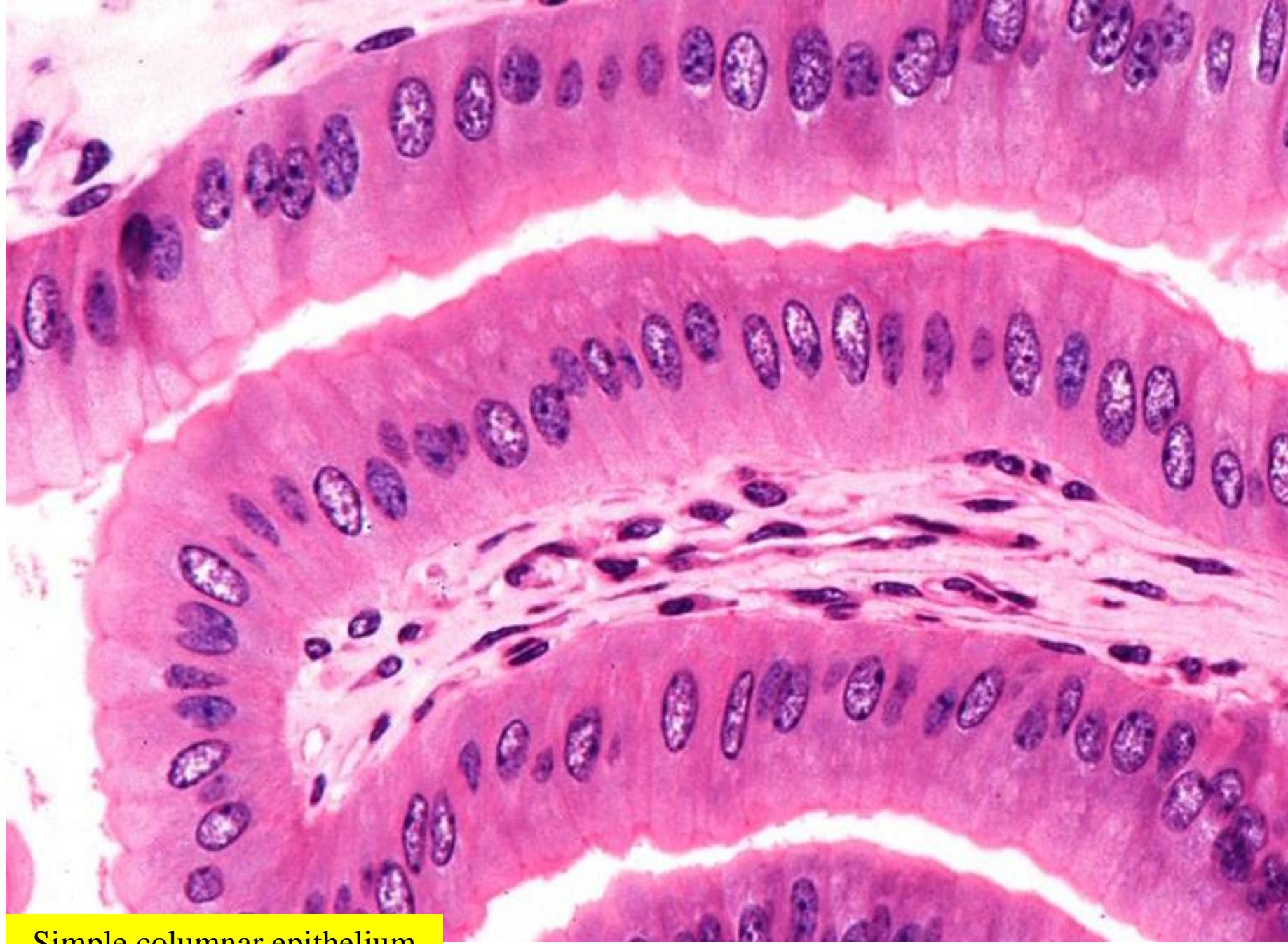


## Mesothelium

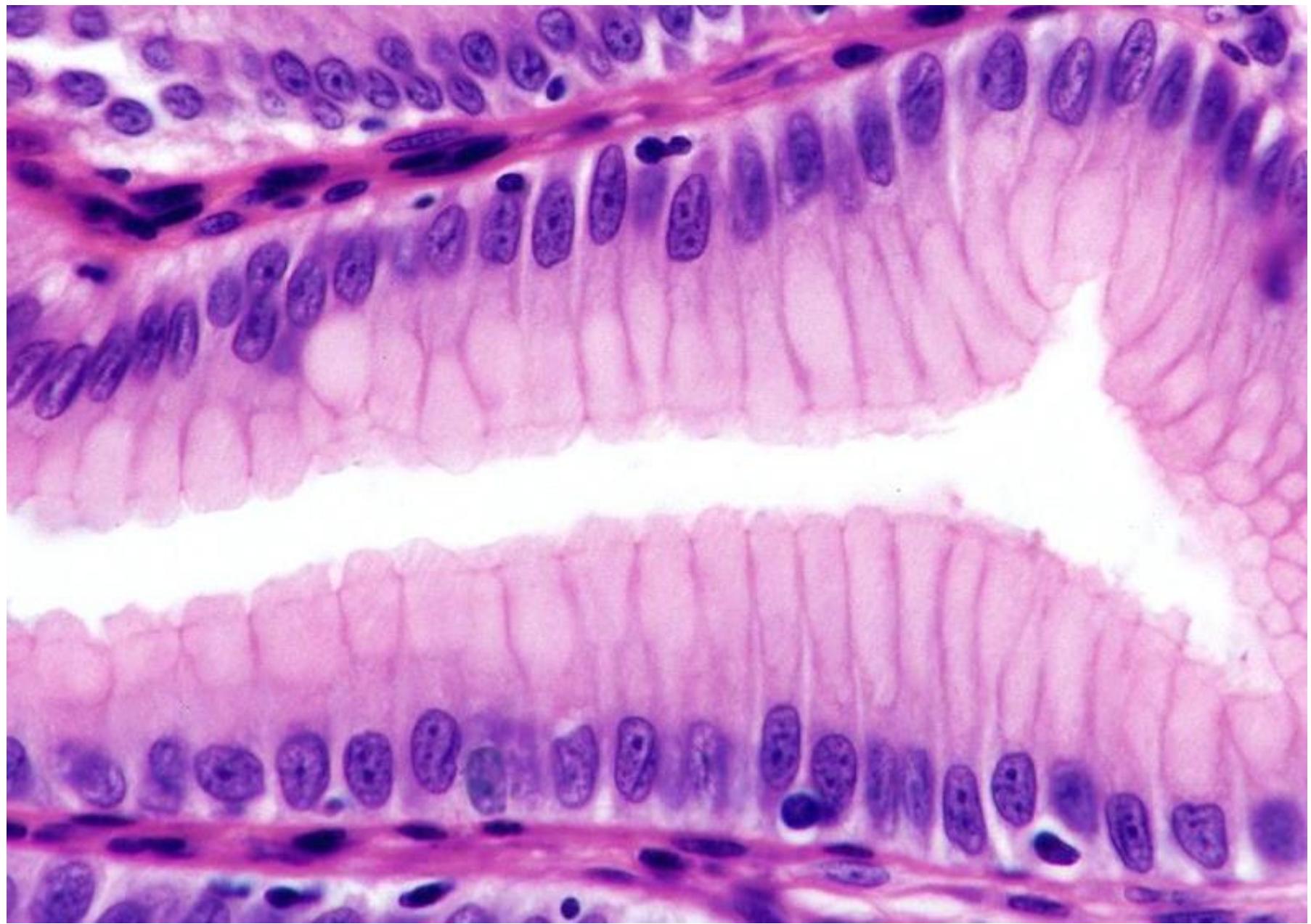
Simple squamous epithelium



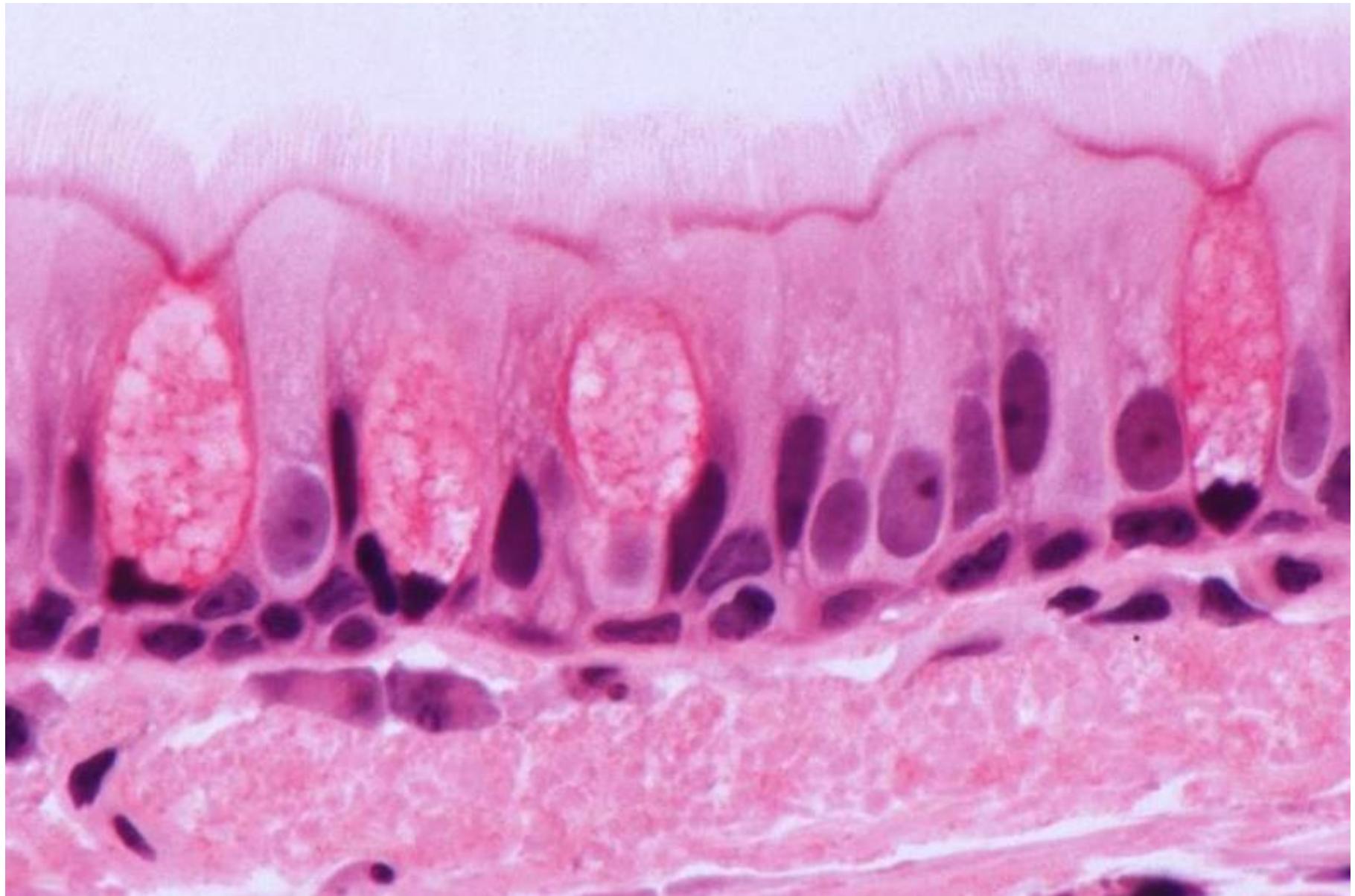
Simple cuboidal epithelium



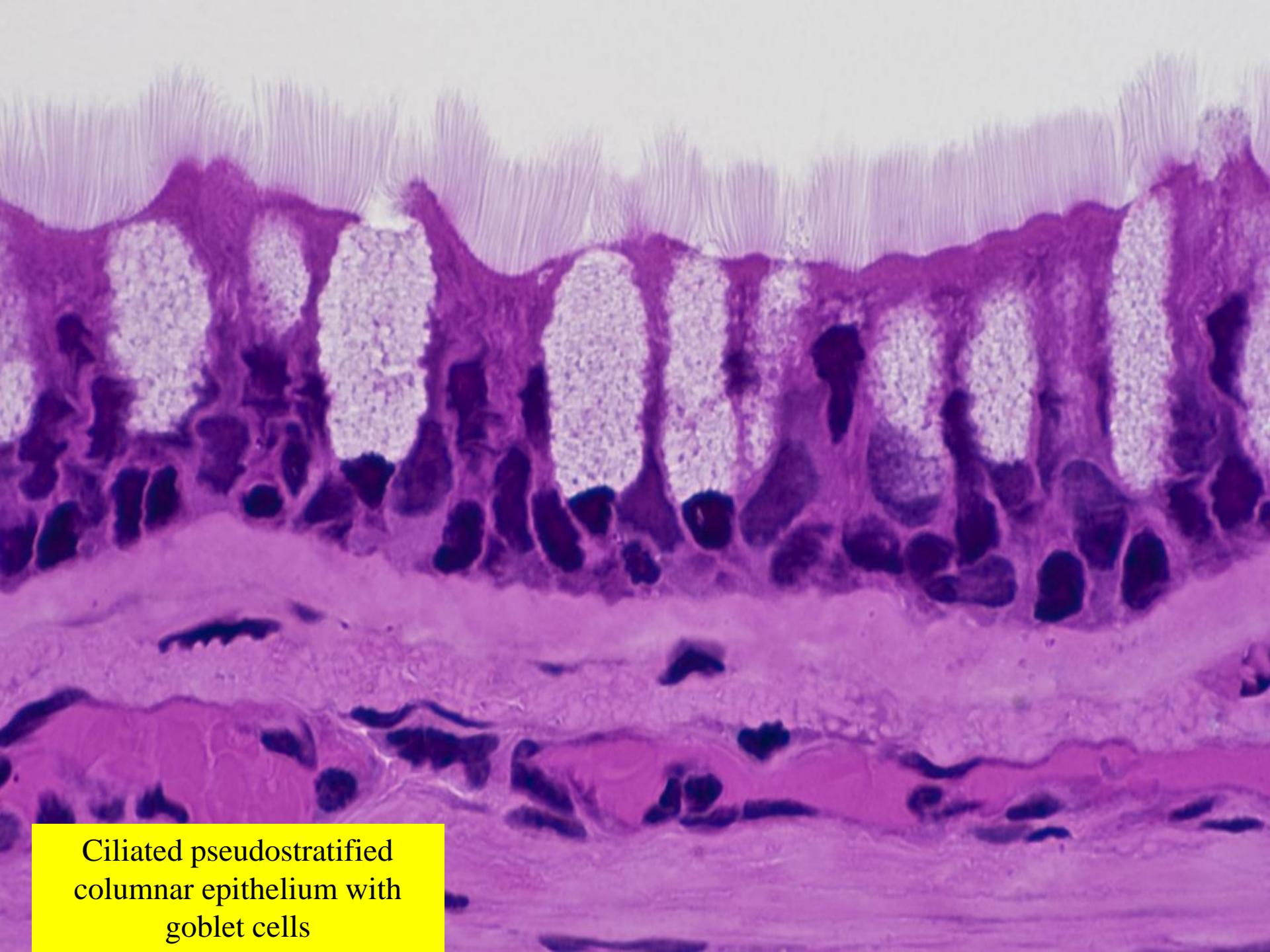
Simple columnar epithelium  
with microvilli



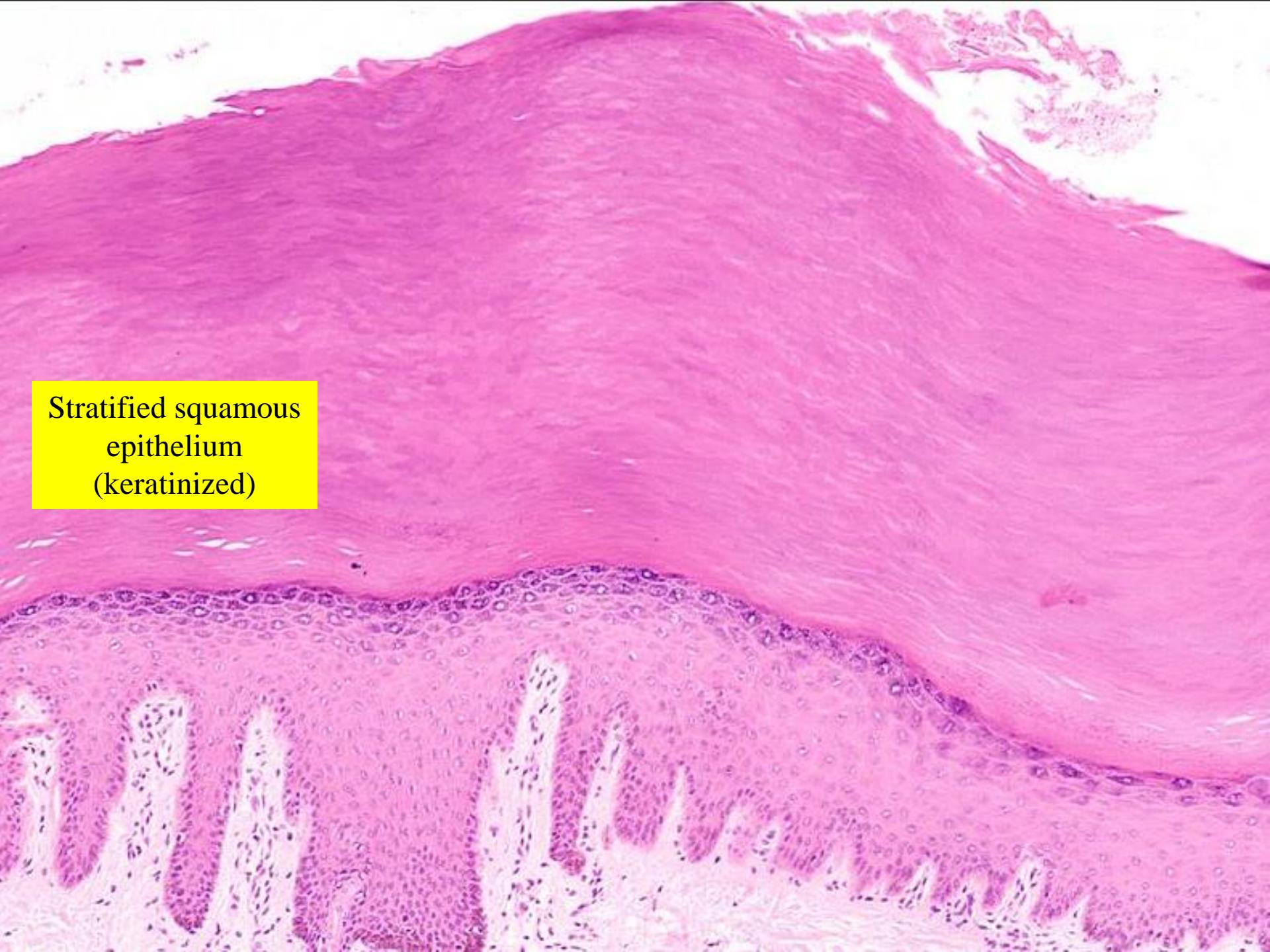
Simple columnar epithelium  
with microvilli



Ciliated pseudostratified  
columnar epithelium with  
goblet cells



Ciliated pseudostratified  
columnar epithelium with  
goblet cells



Stratified squamous  
epithelium  
(keratinized)

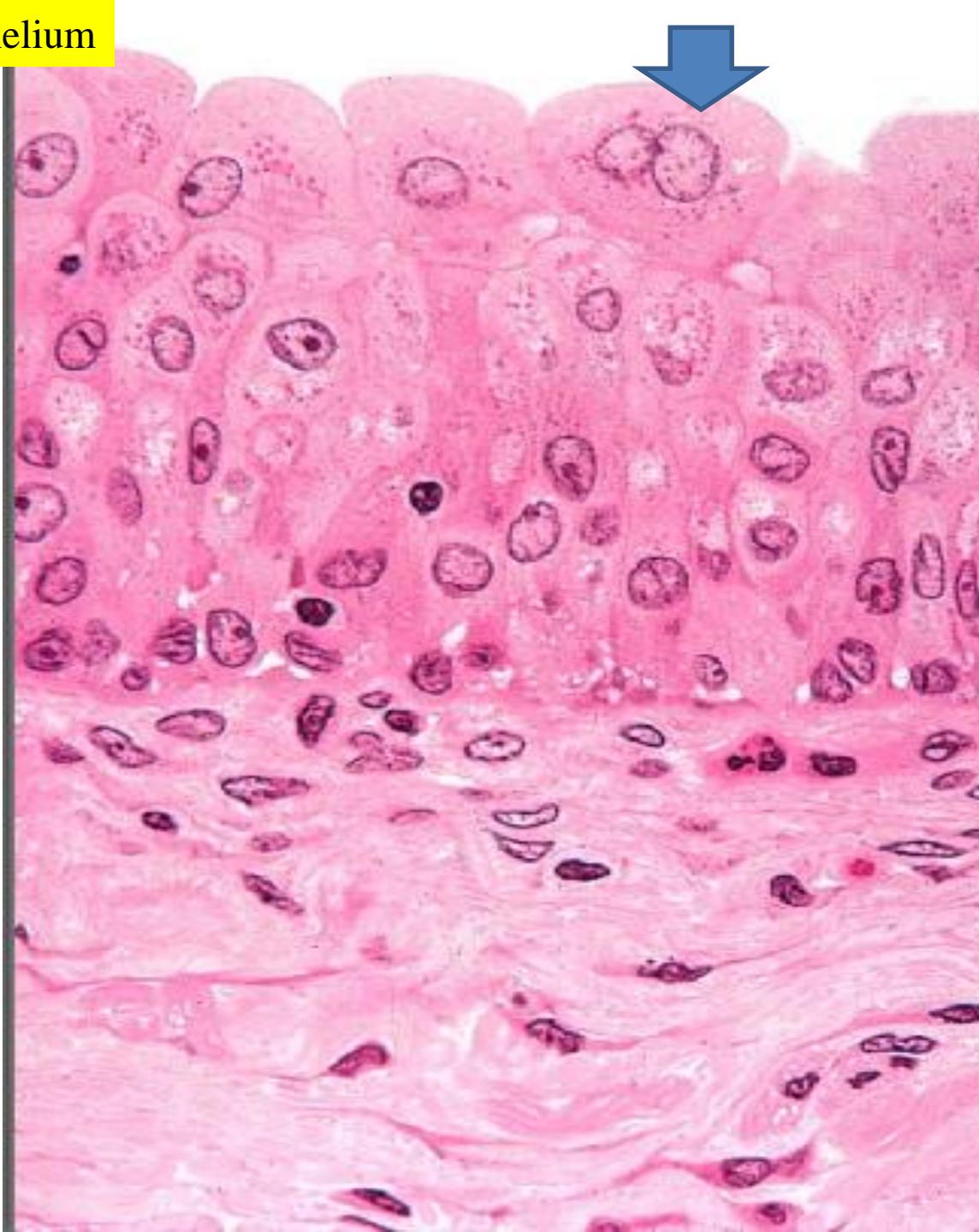
A light micrograph showing a cross-section of stratified squamous epithelium. The epidermis is multi-layered, with basal layers containing large, polygonal basal cells and suprabasal layers composed of smaller, more flattened squamous cells. Several large, clear, circular structures representing keratinized squamous metaplasia are visible within the epidermal layers. The underlying dermis is visible at the bottom, showing a dense connective tissue stroma with some collagen fibers.

Stratified squamous  
epithelium (non  
keratinized)

## Stratified cuboidal epithelium



Transitional epithelium

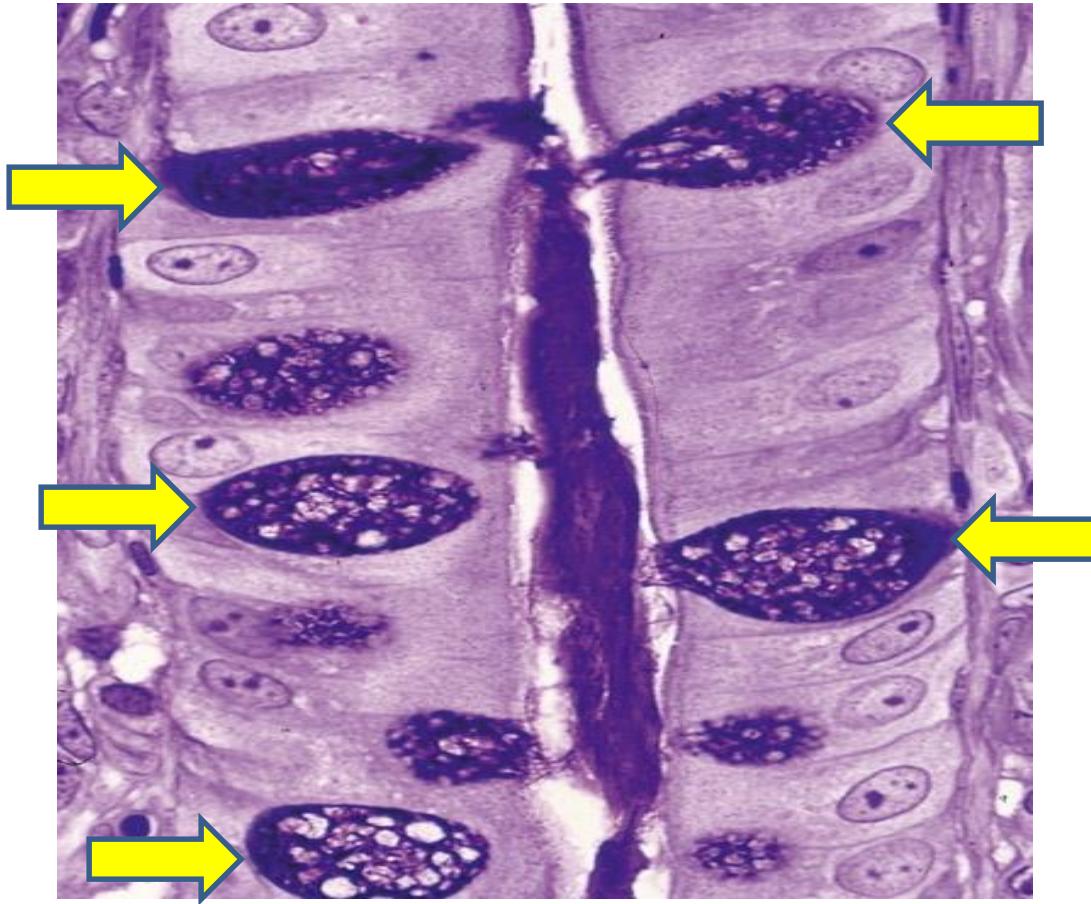


Transitional epithelium

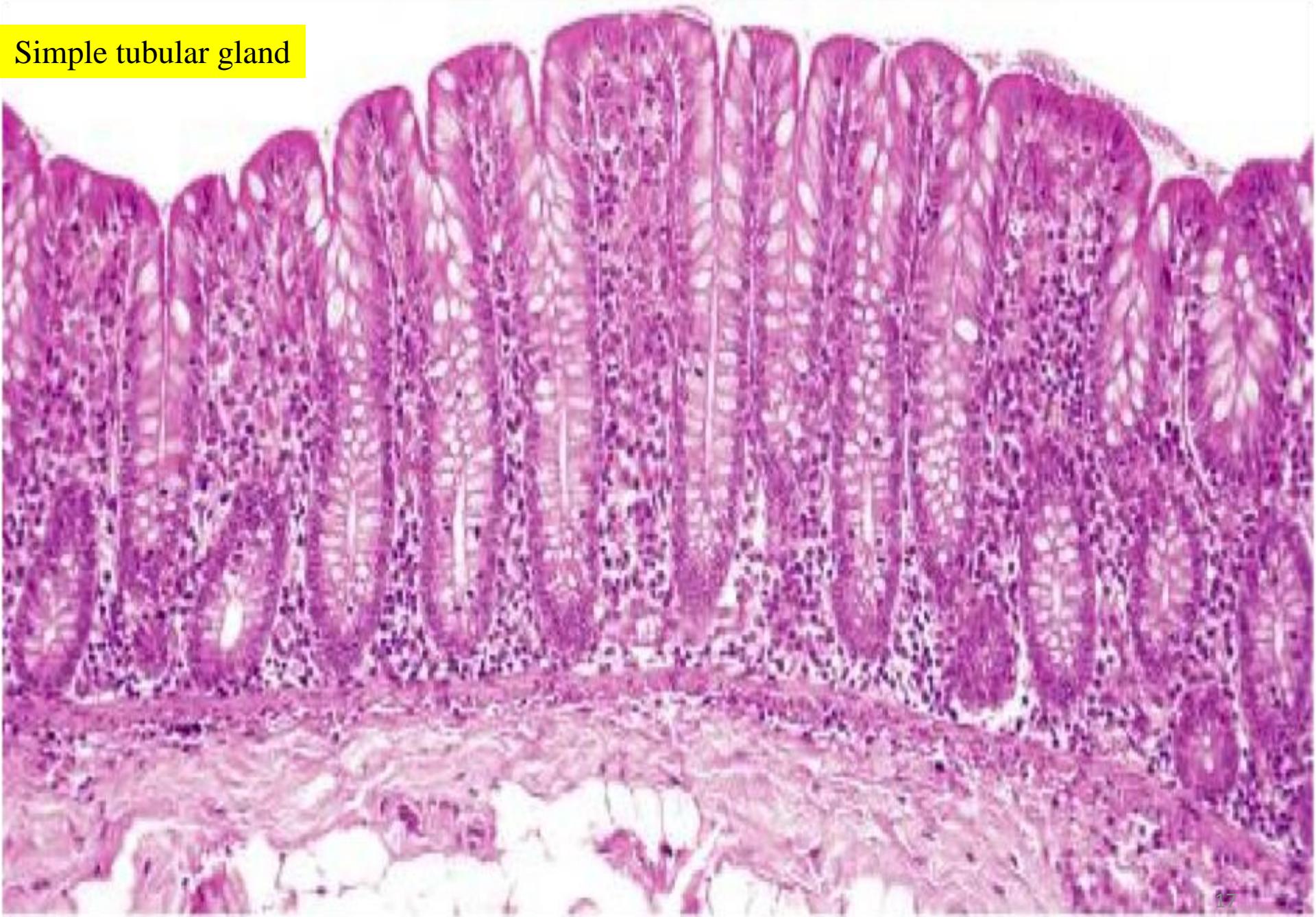


# Glands

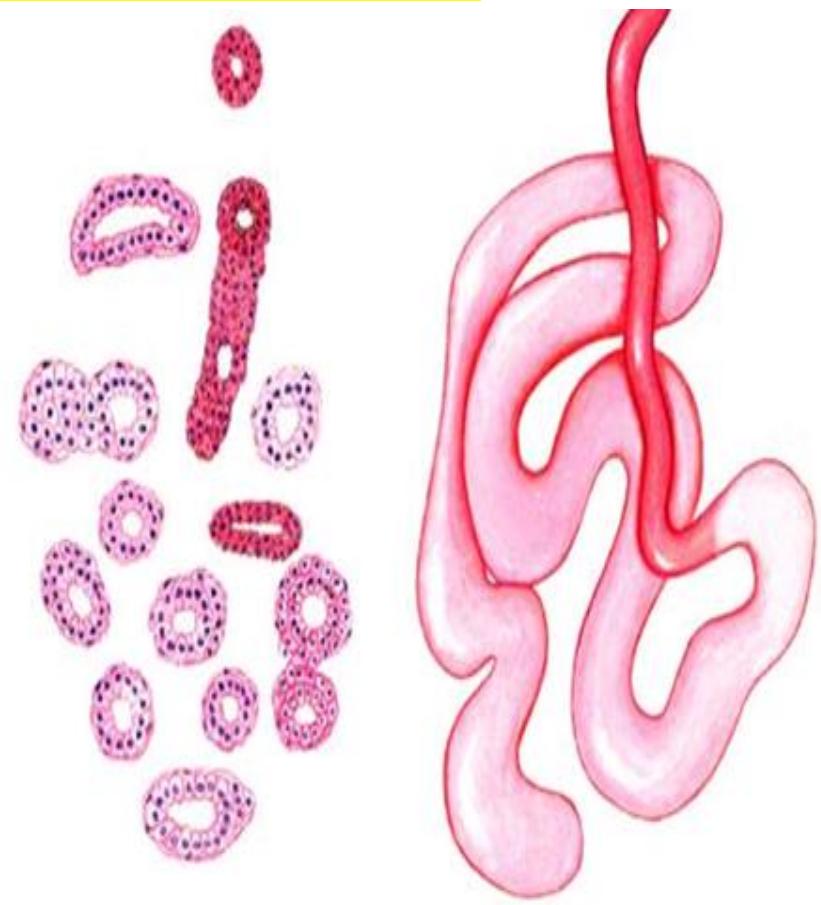
Goblet cells



Simple tubular gland



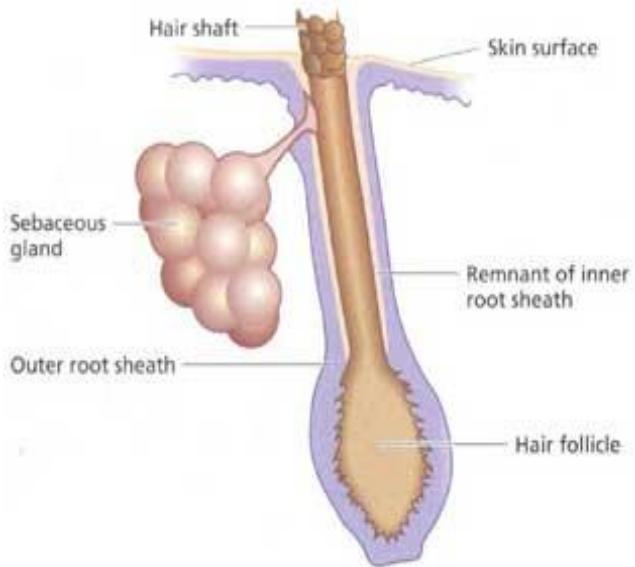
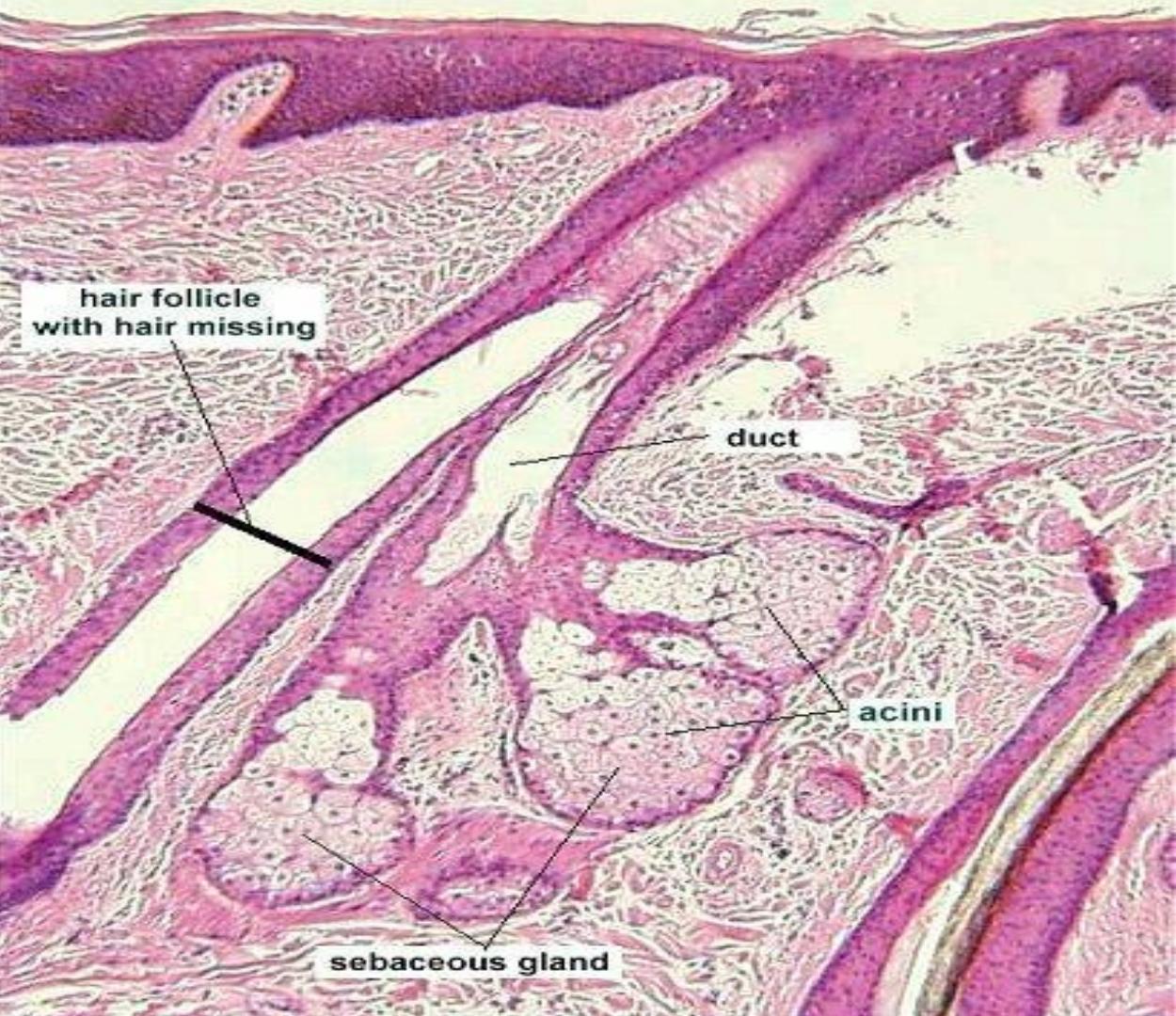
Sweat gland  
(simple coiled tubular)



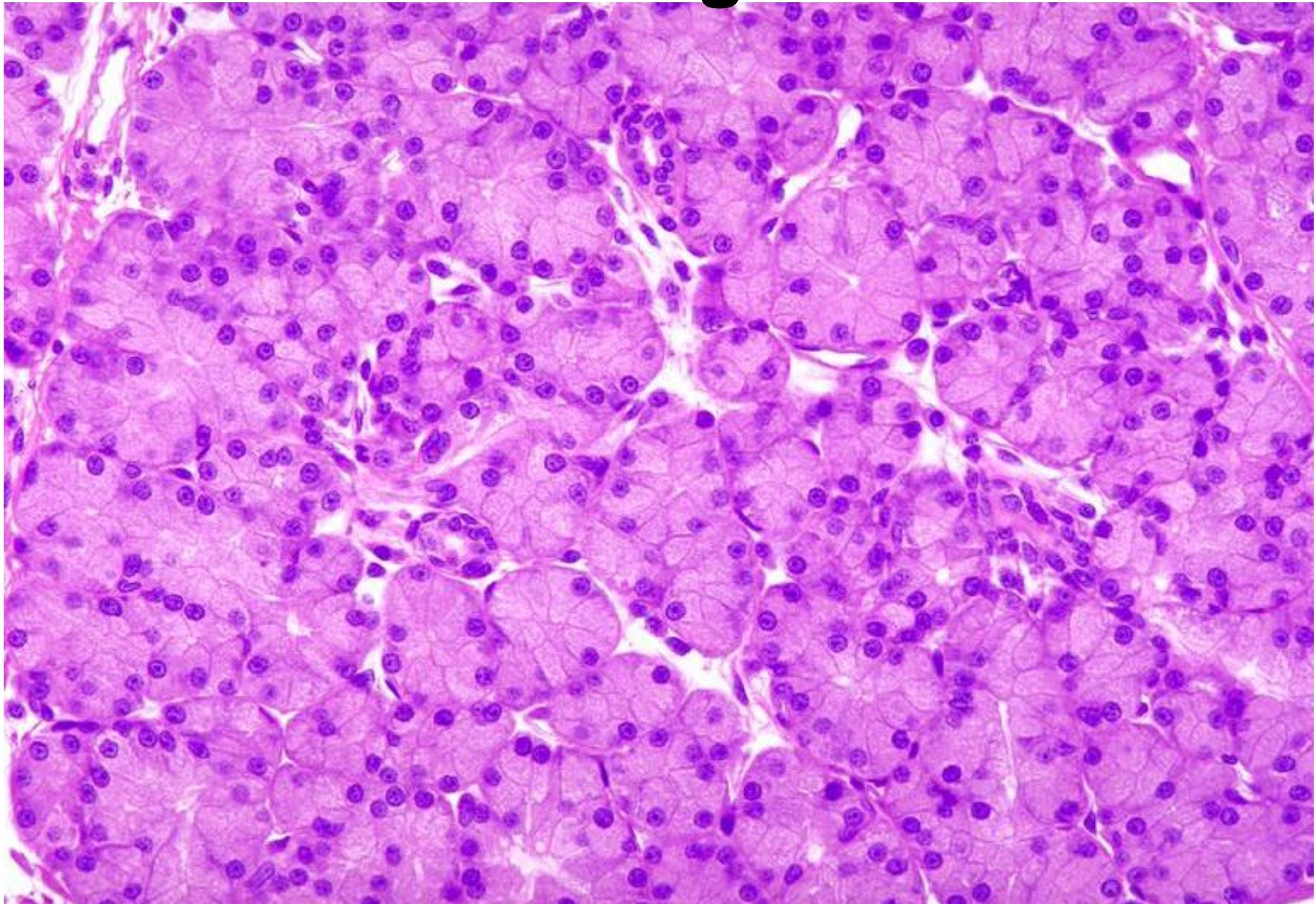
Simple branched tubular gland



Sebaceous gland  
(simple branched acinar)



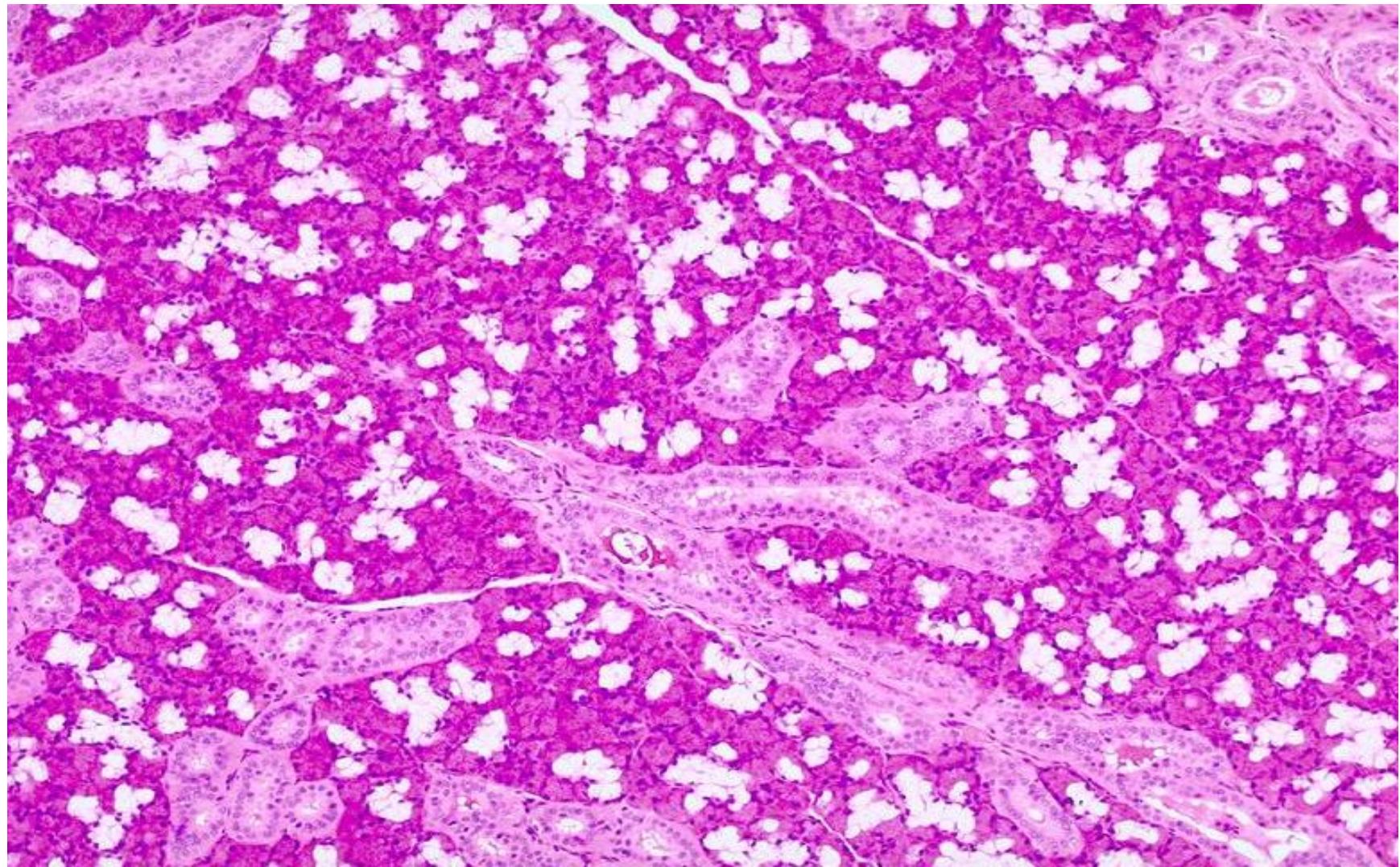
# Serous gland



Compound acinar

Parotid gland

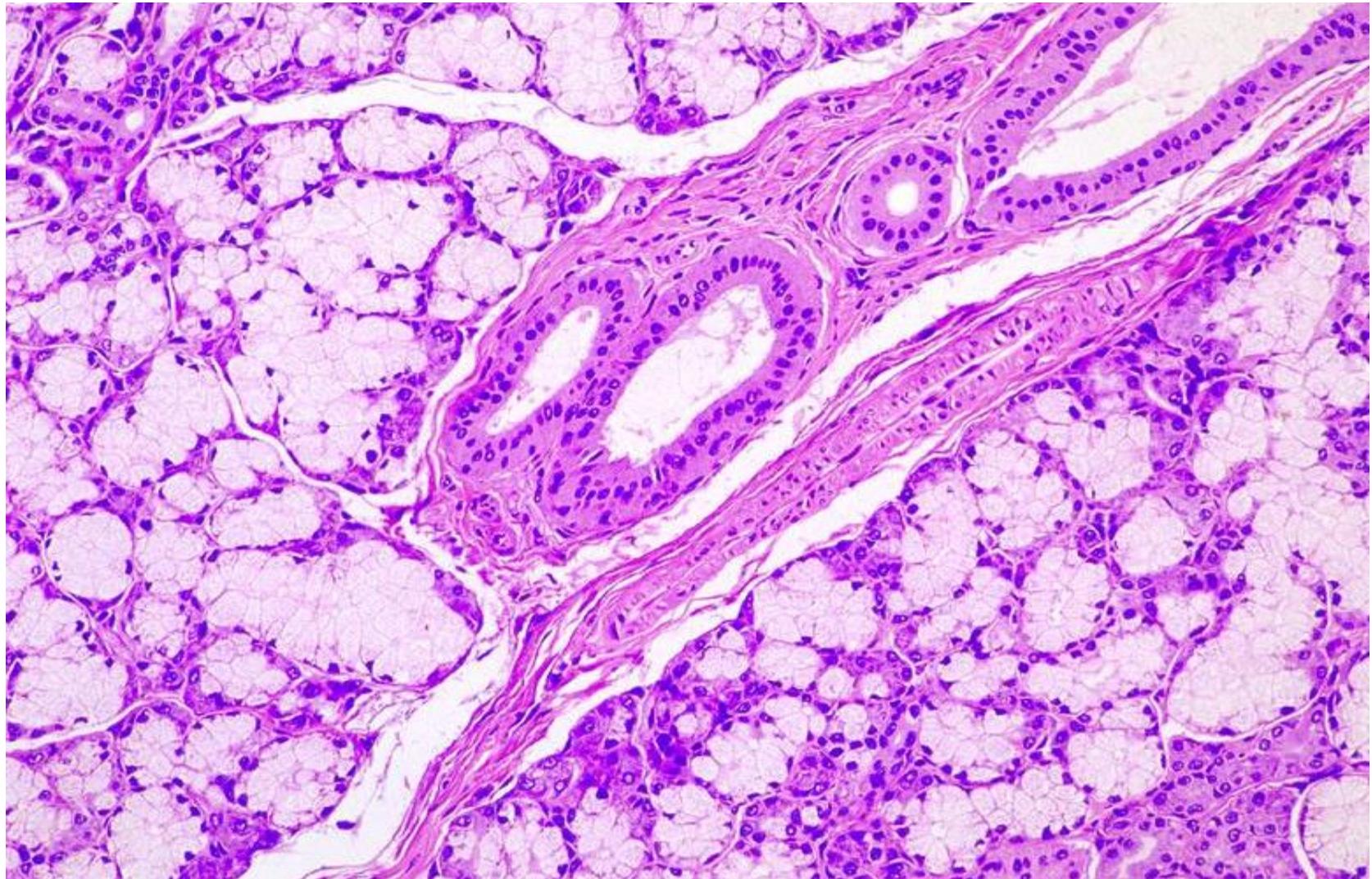
# Mixed gland: Seromucous gland



Compound tubulo-acinar

Submandibular gland

# Mixed gland: Mucoserous gland

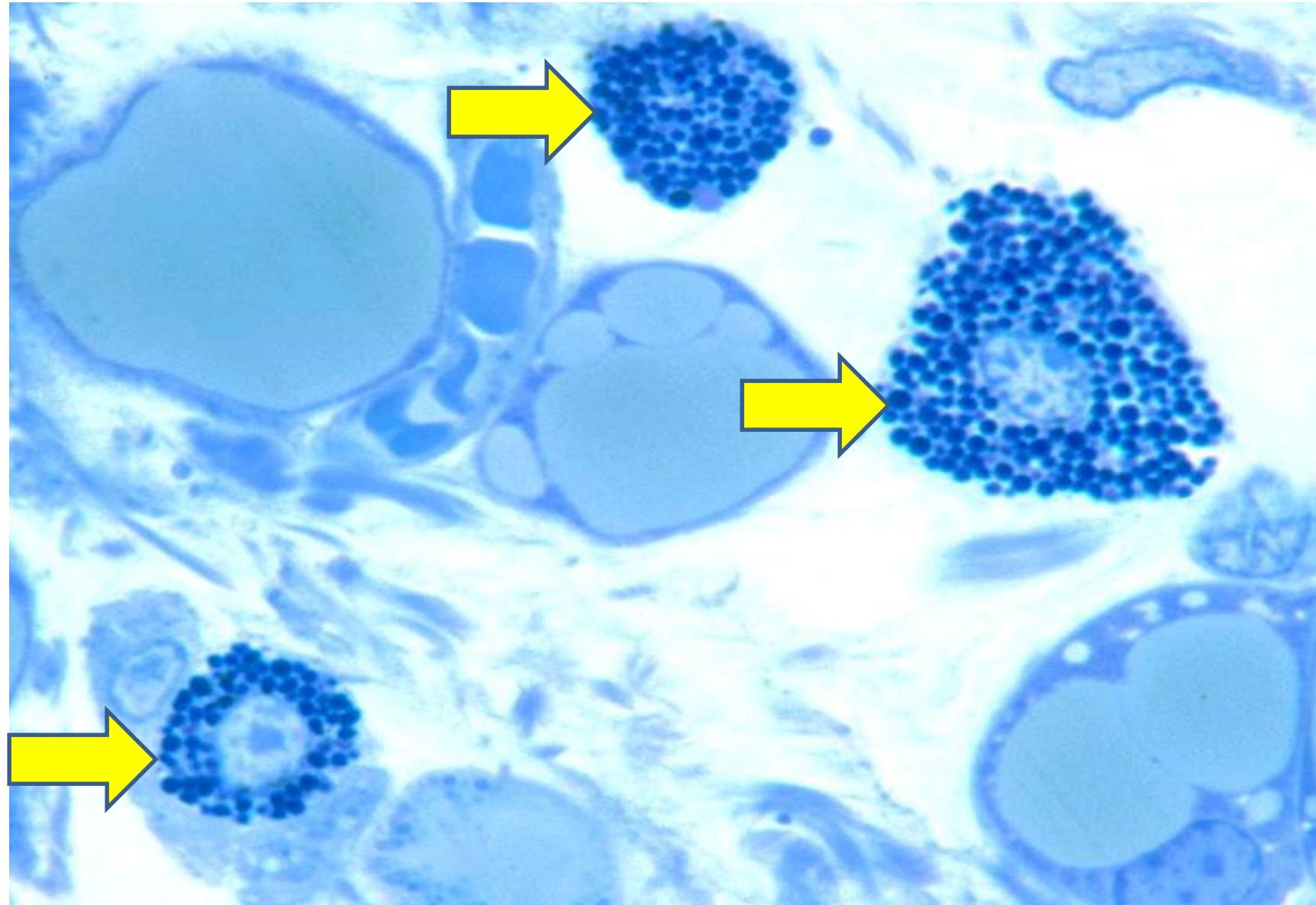


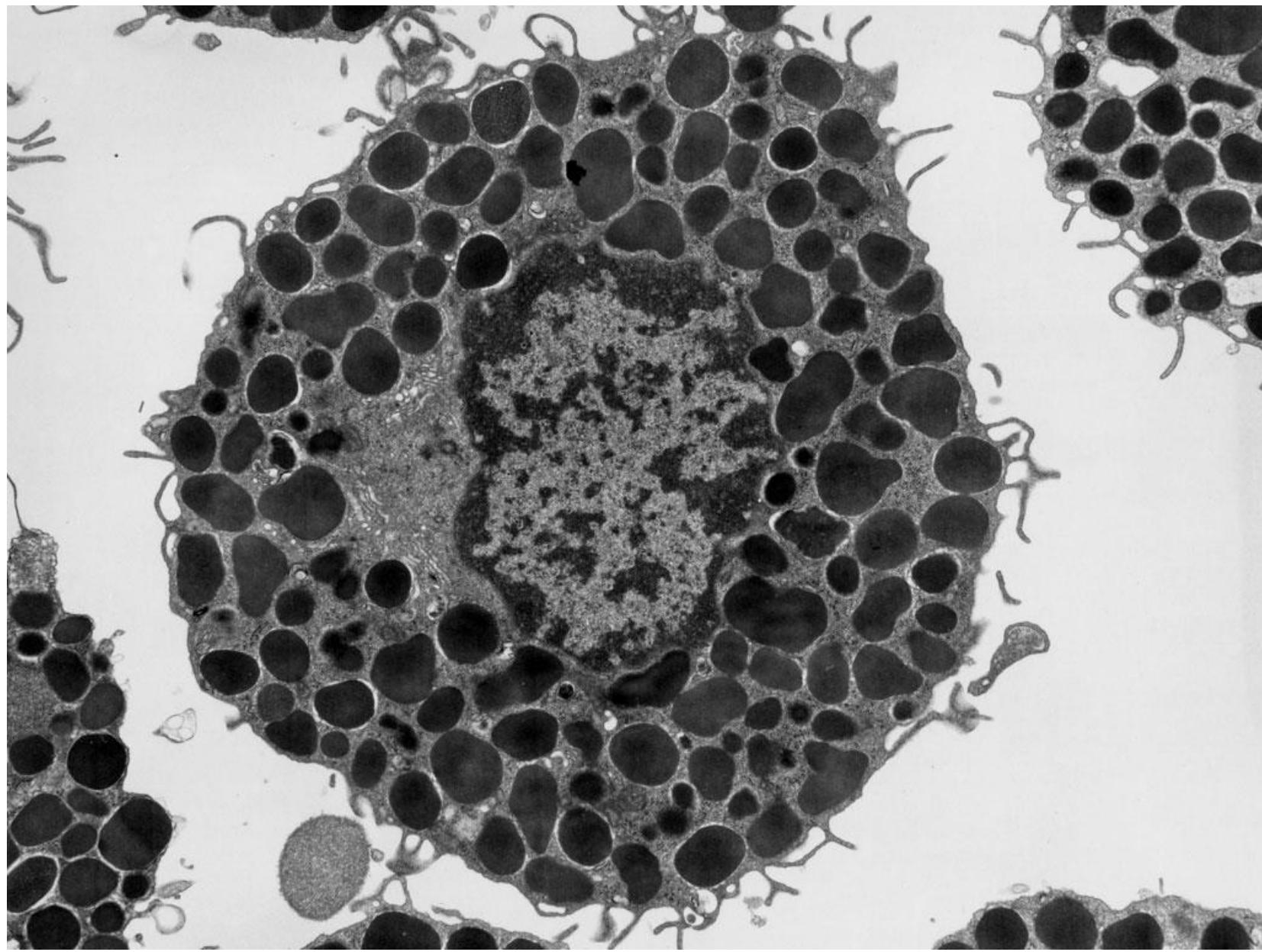
Compound tubulo-acinar

Sublingual gland

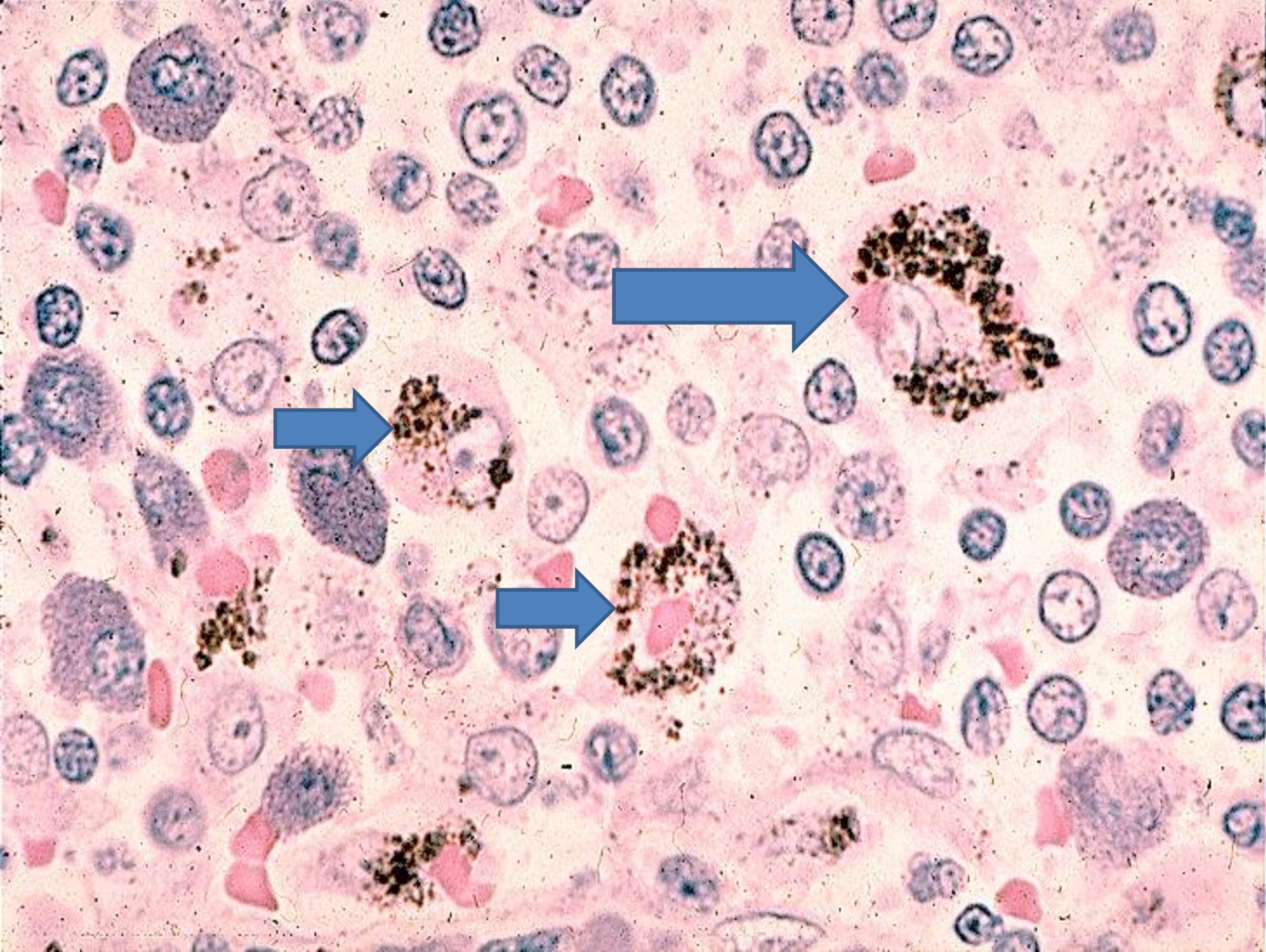
# Connective tissue cells

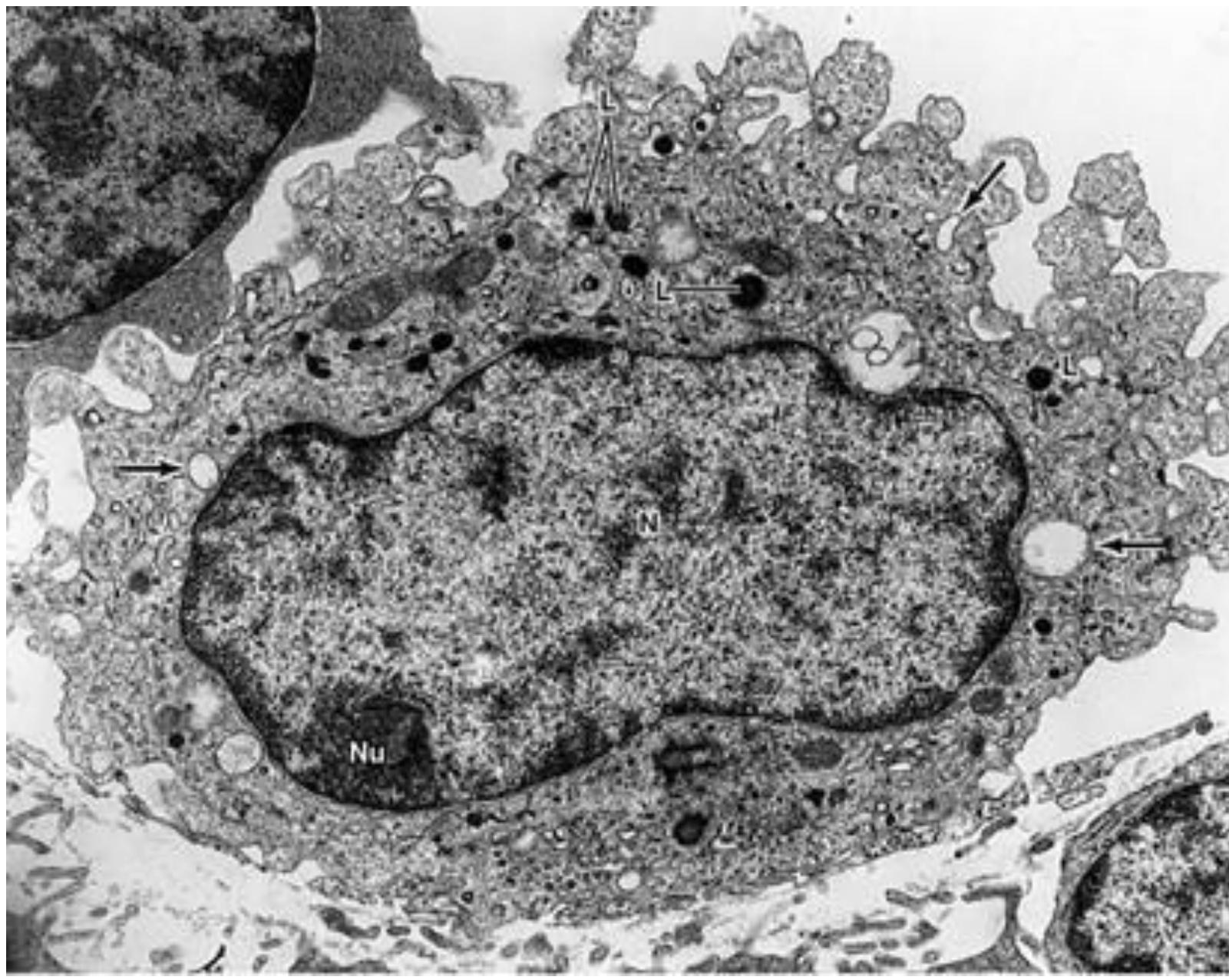
# Mast cell





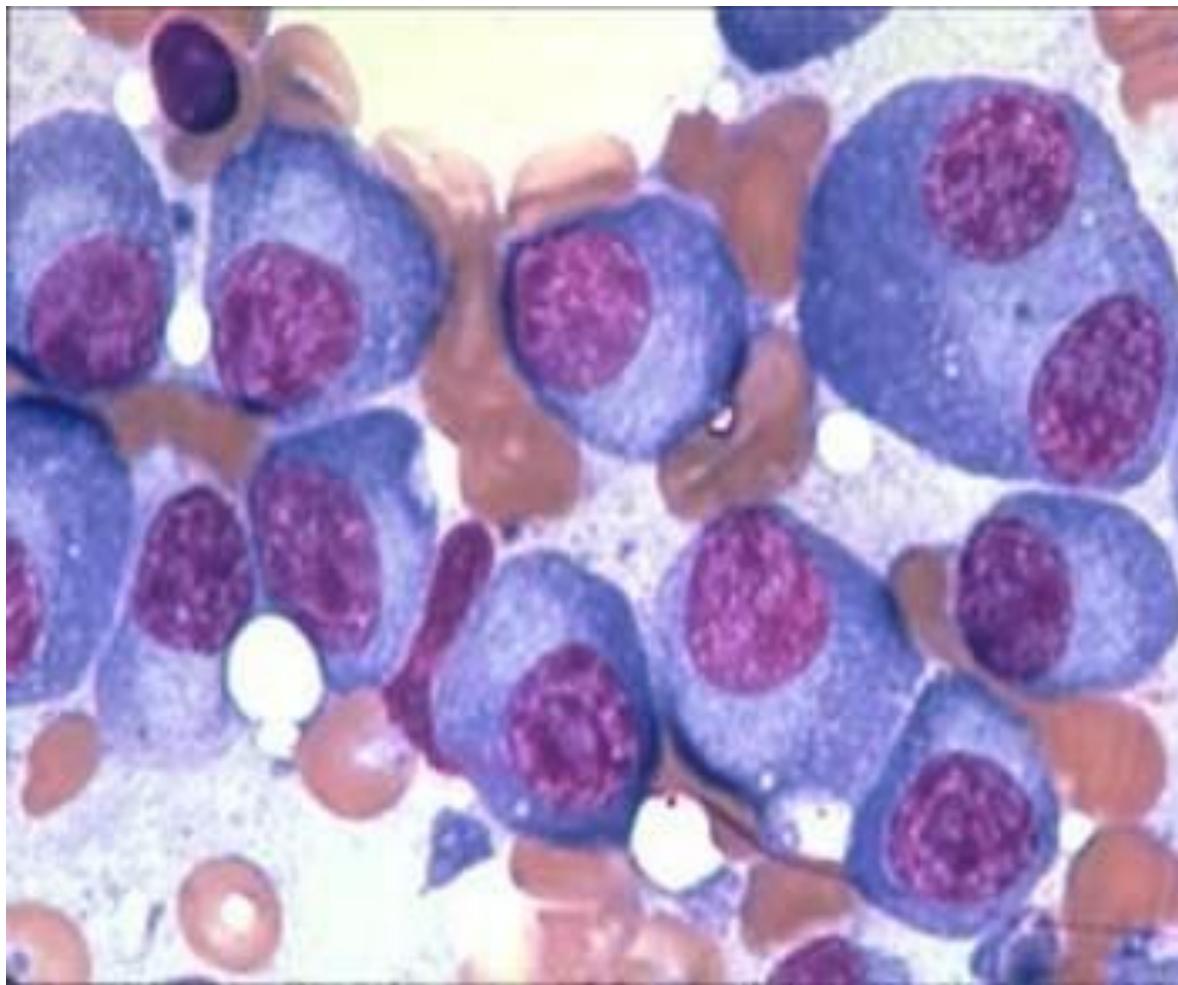
# Macrophage

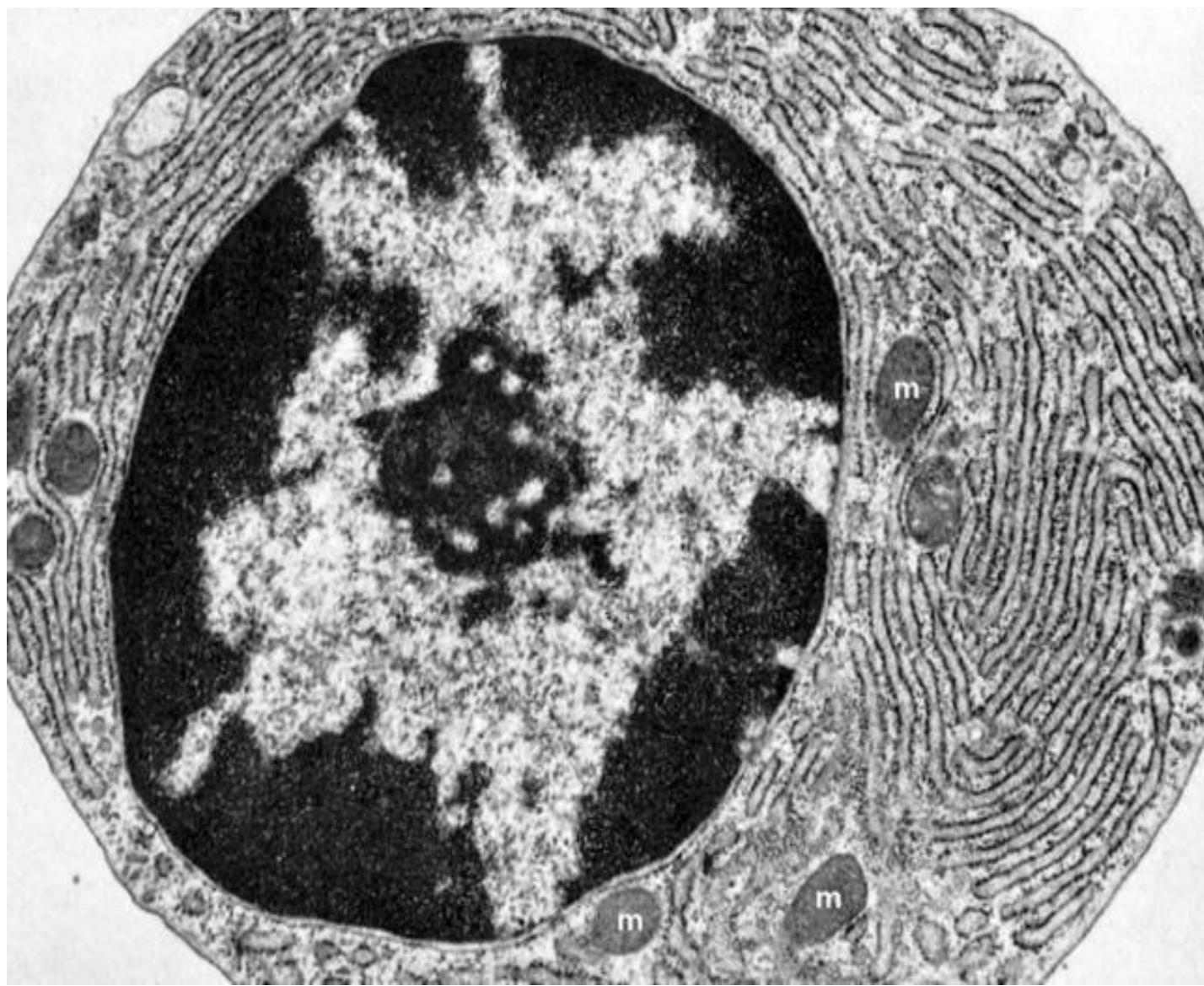




# Plasma cell

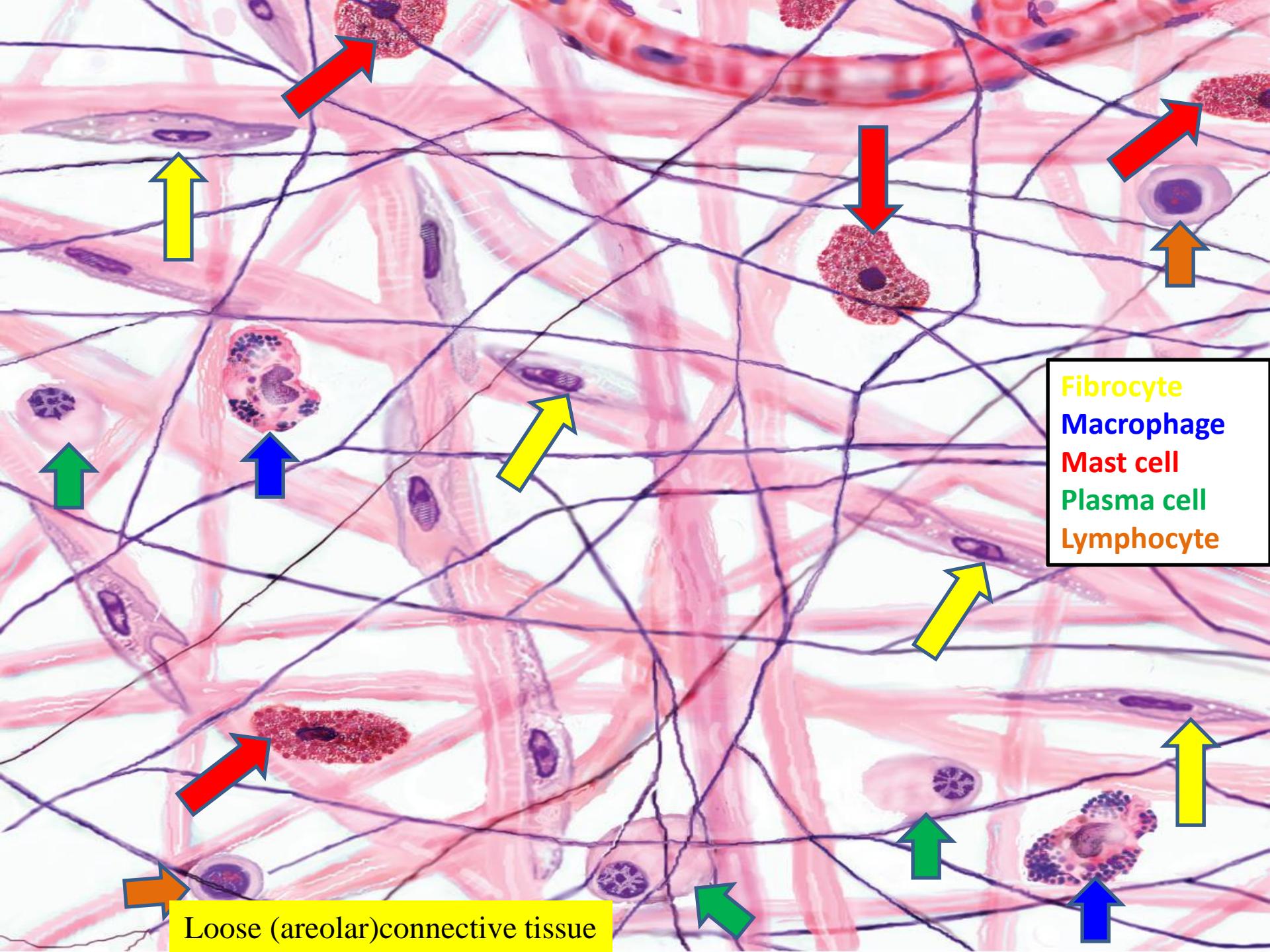
# Negative Golgi stain



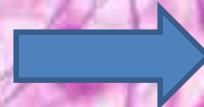


# Connective tissue types

Embryonic connective tissue  
(mesenchyme)



Loose (areolar)connective tissue

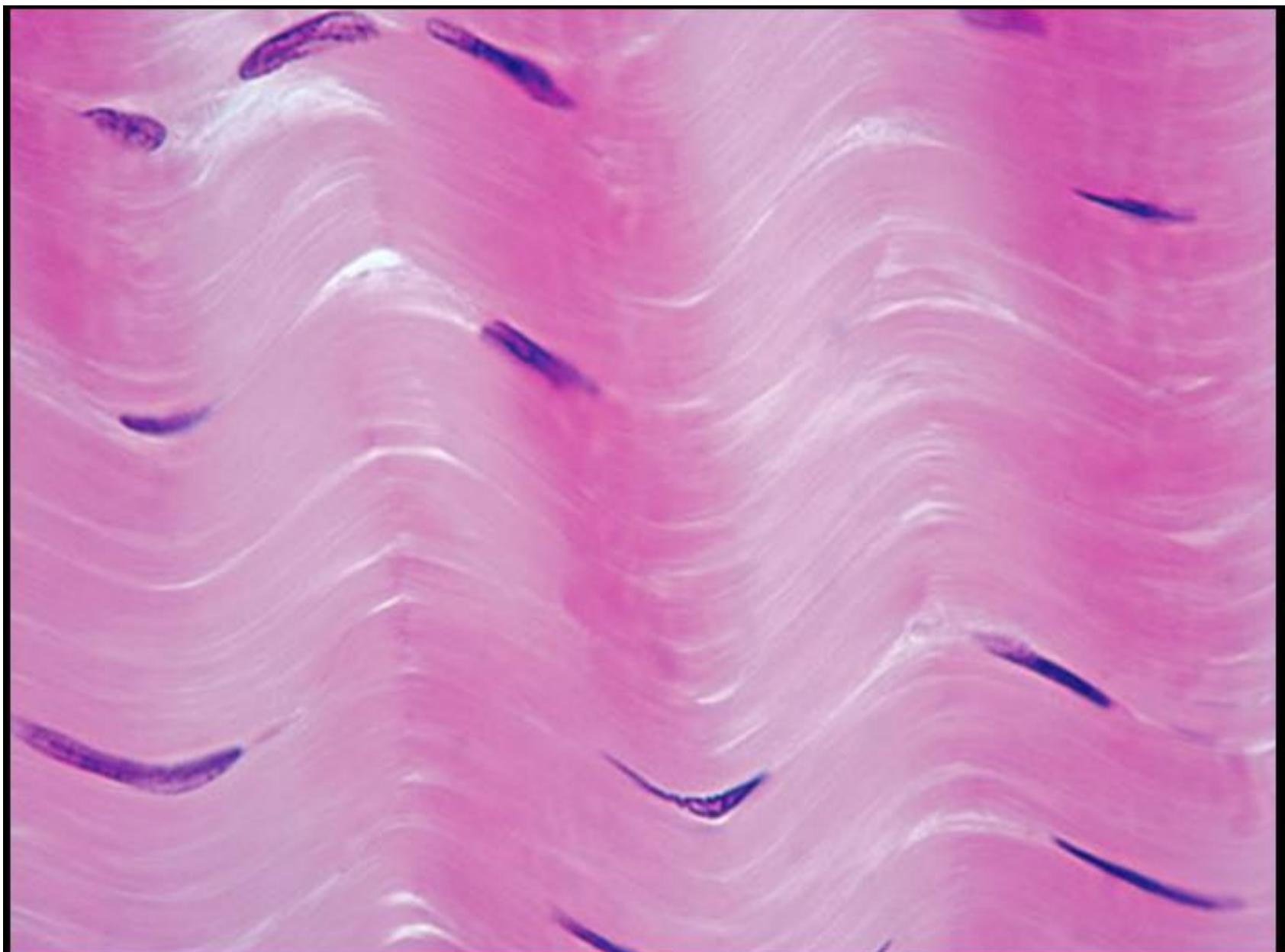


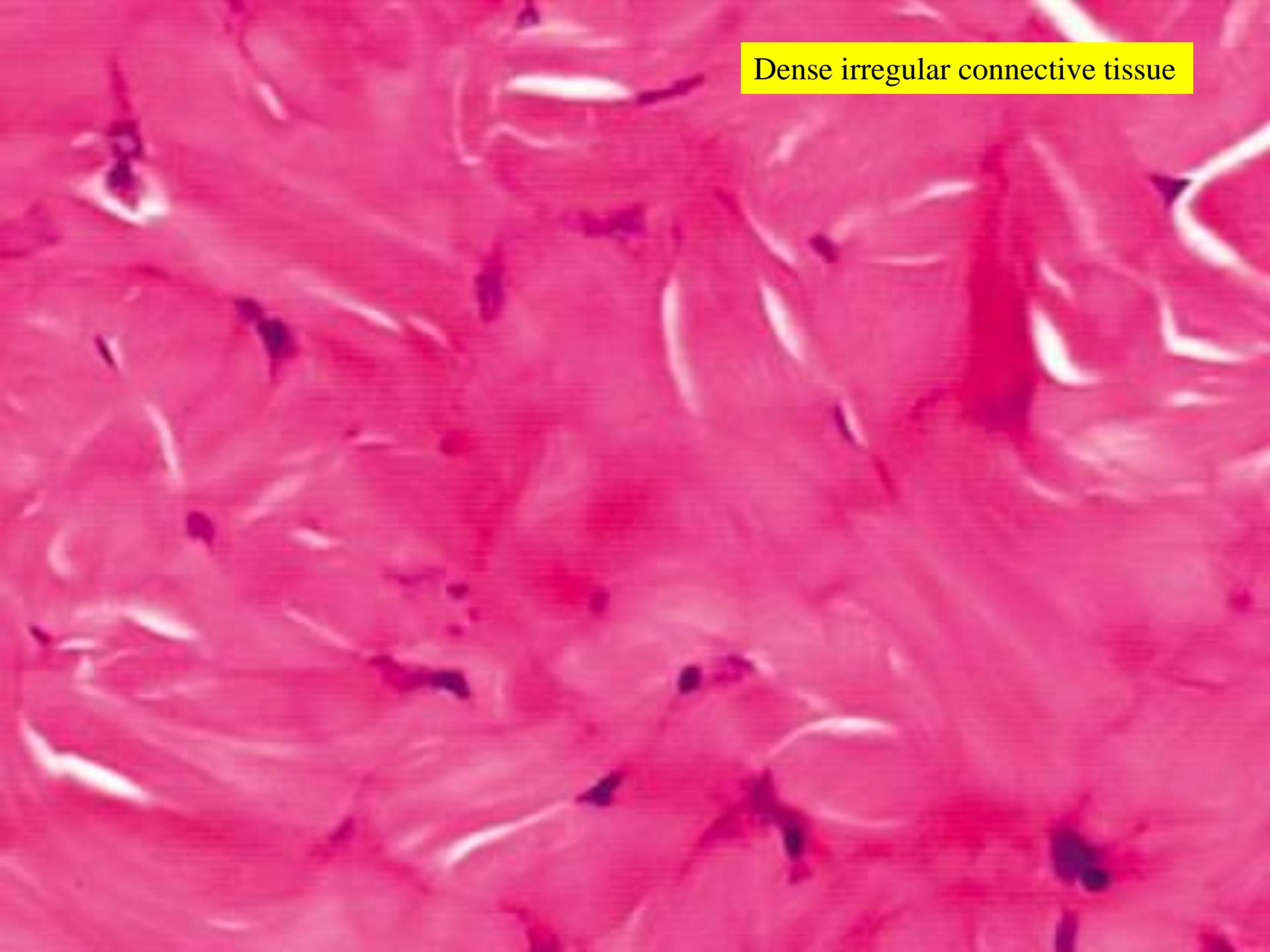
Elastic fiber  
Collagen type 1



Loose connective tissue  
(lamina propria)

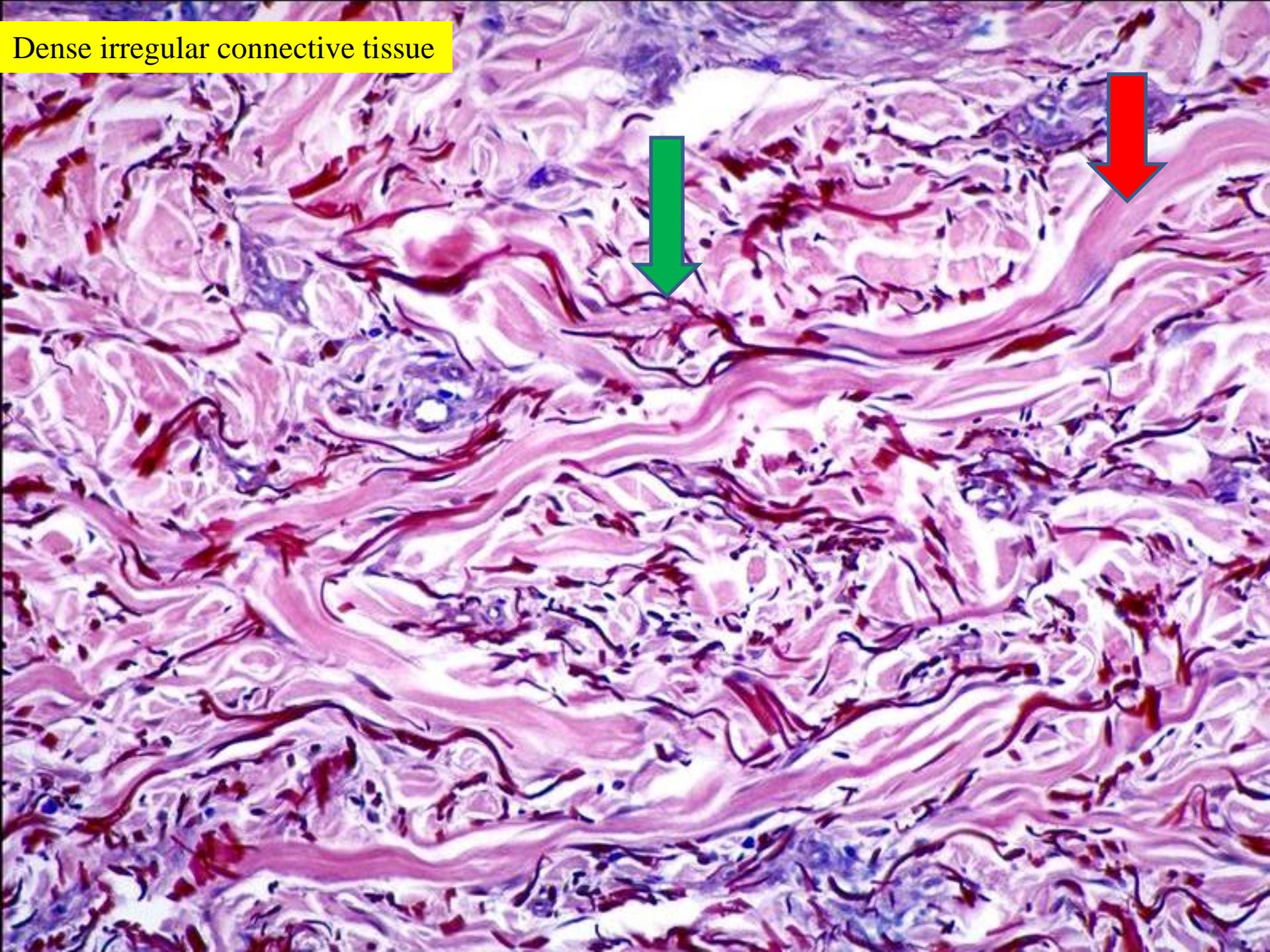
Dense regular connective tissue



A light micrograph showing a tissue sample with a dense, irregular arrangement of fibers. The fibers are stained a pale pink color, while the spaces between them and the cellular components are stained a deeper magenta/purple. Small, dark, oval-shaped nuclei are scattered throughout the tissue.

Dense irregular connective tissue

Dense irregular connective tissue



**Dense irregular**

**loose**

A: ELASTIC FIBER  
B: SMOOTH MUSCLE  
C: COLLAGEN FIBER

Elastic tissue

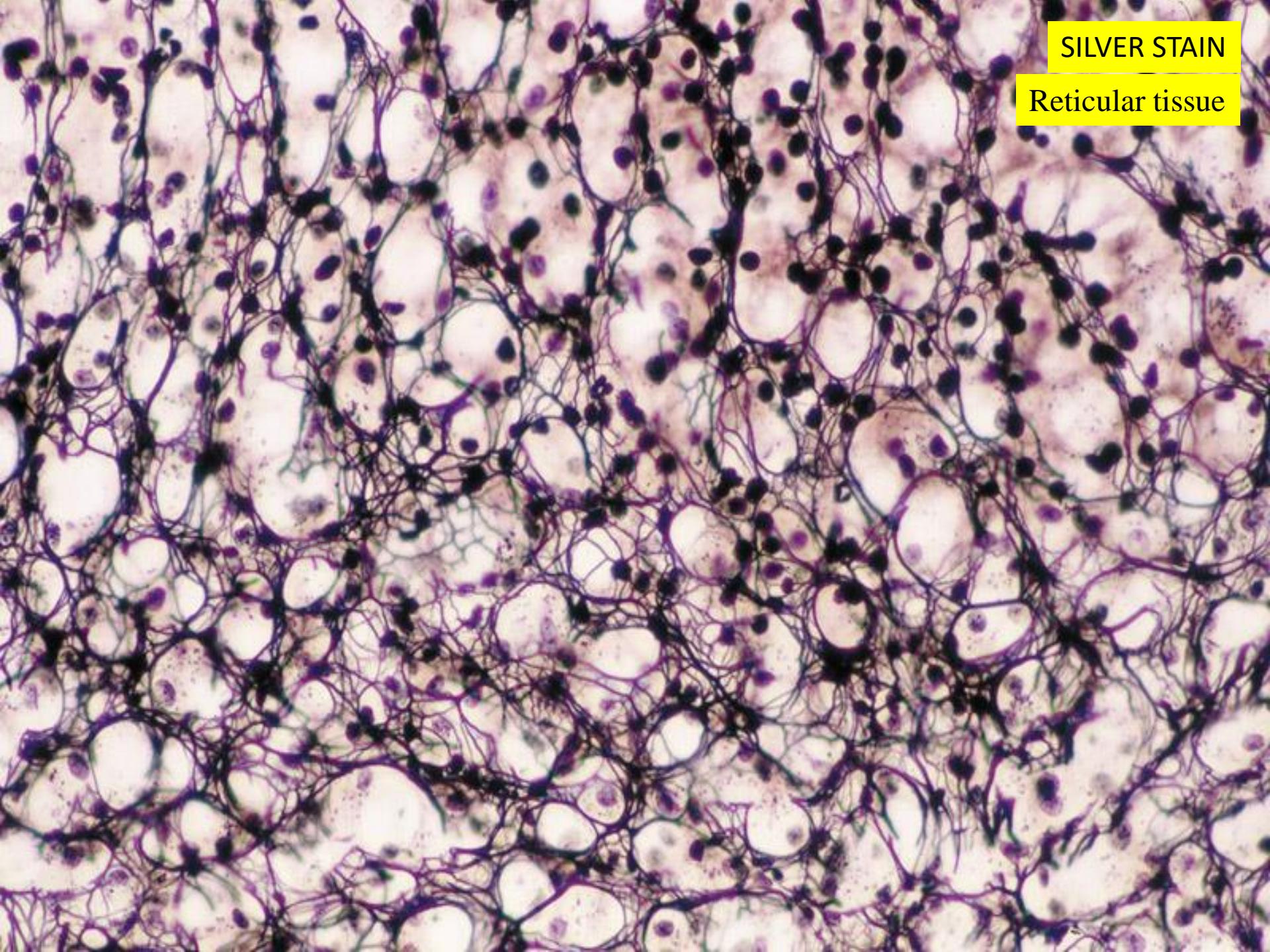
A

C

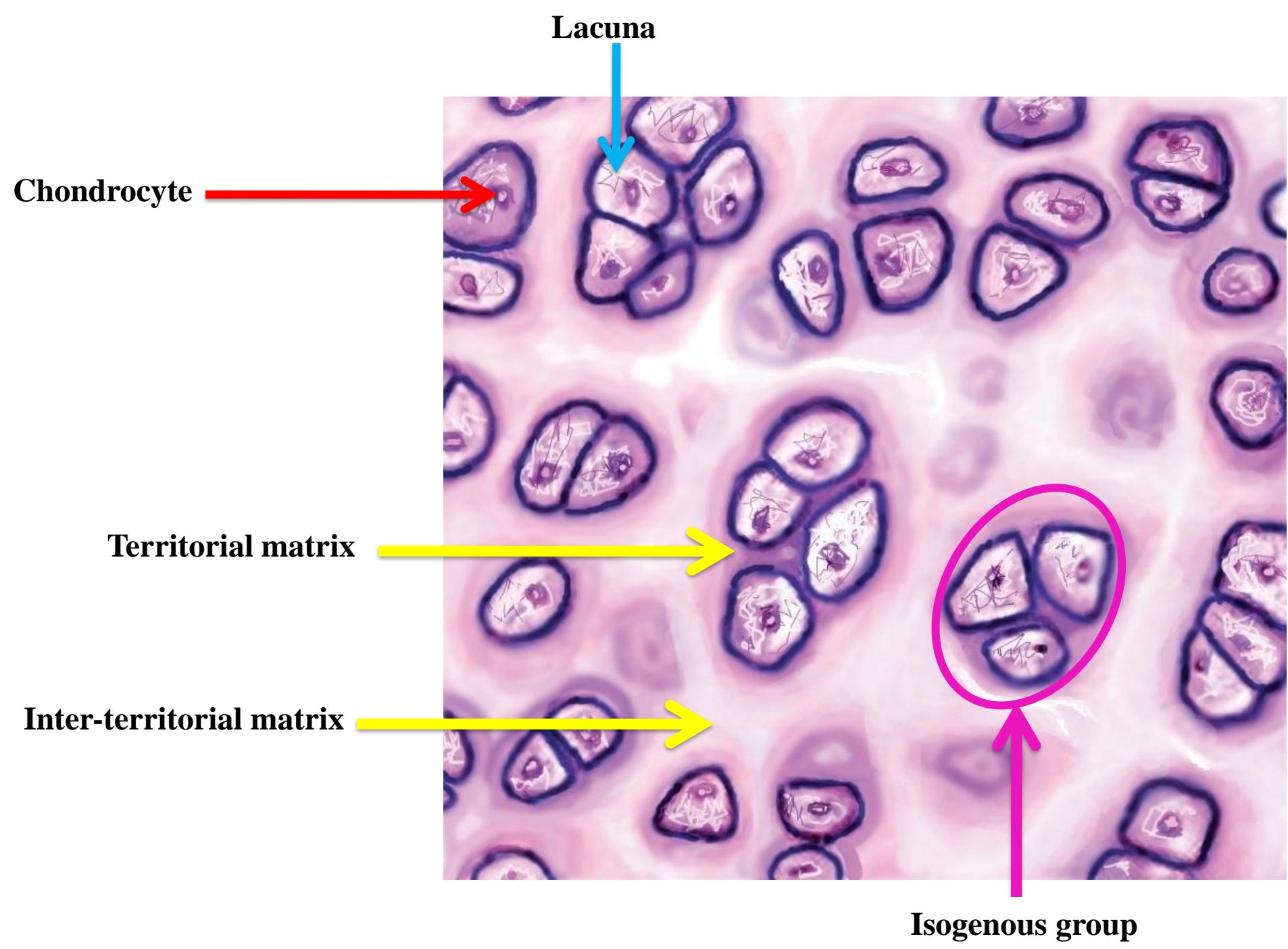
B

SILVER STAIN

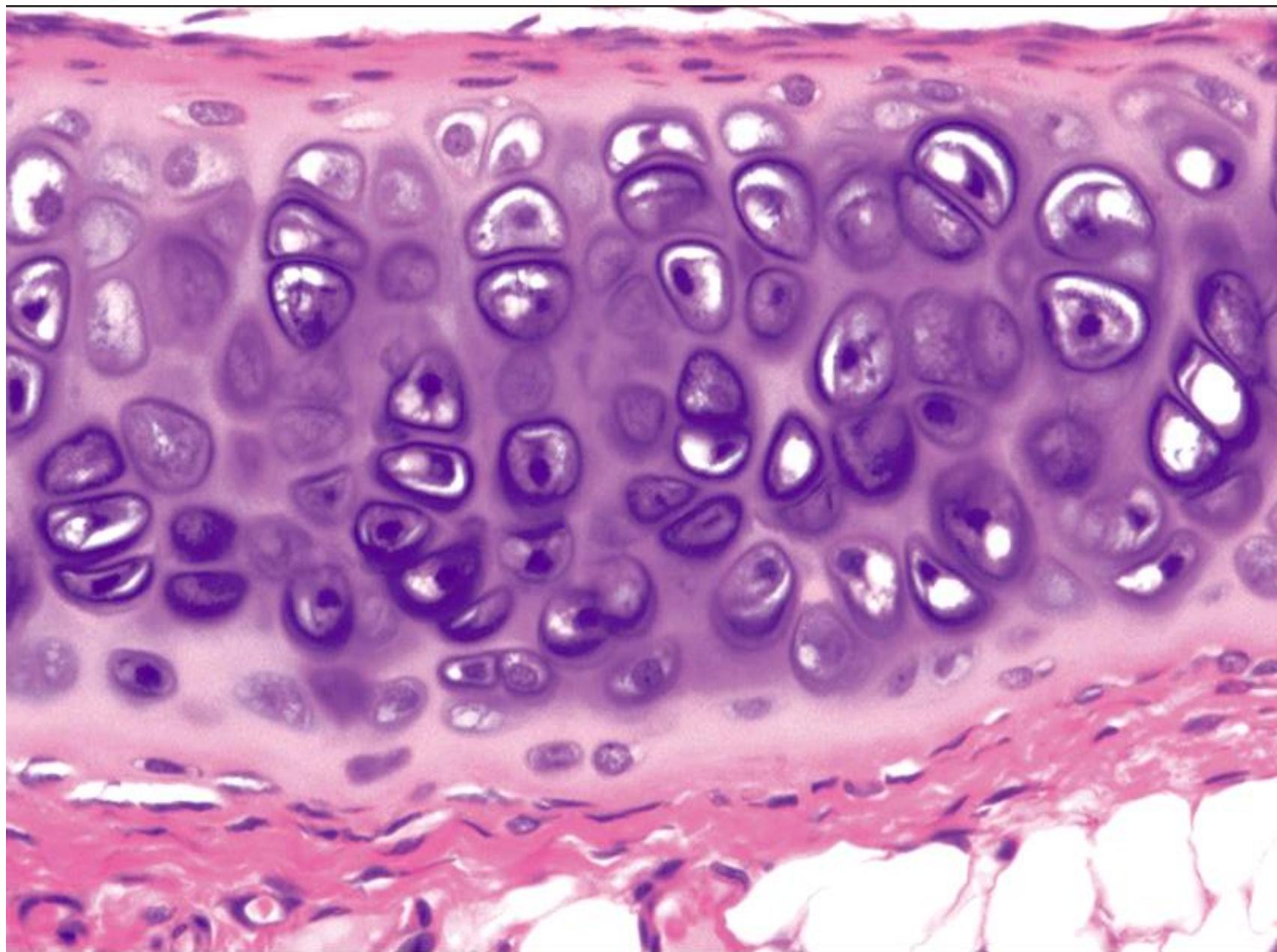
Reticular tissue



# Cartilage



Hyaline cartilage



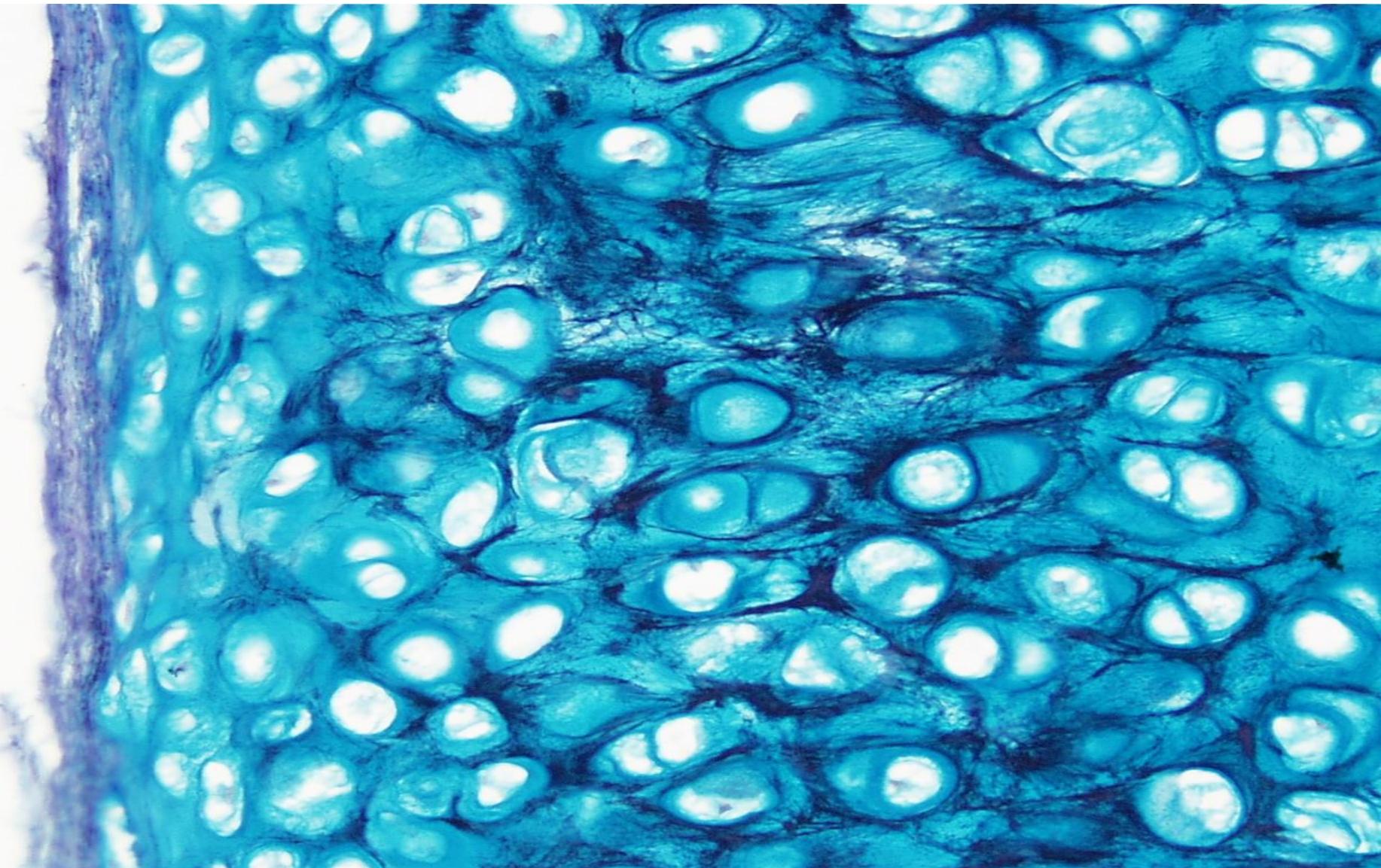
Elastic cartilage



Lacuna  
Elastic fiber  
Chondrocyte  
Perichondrium



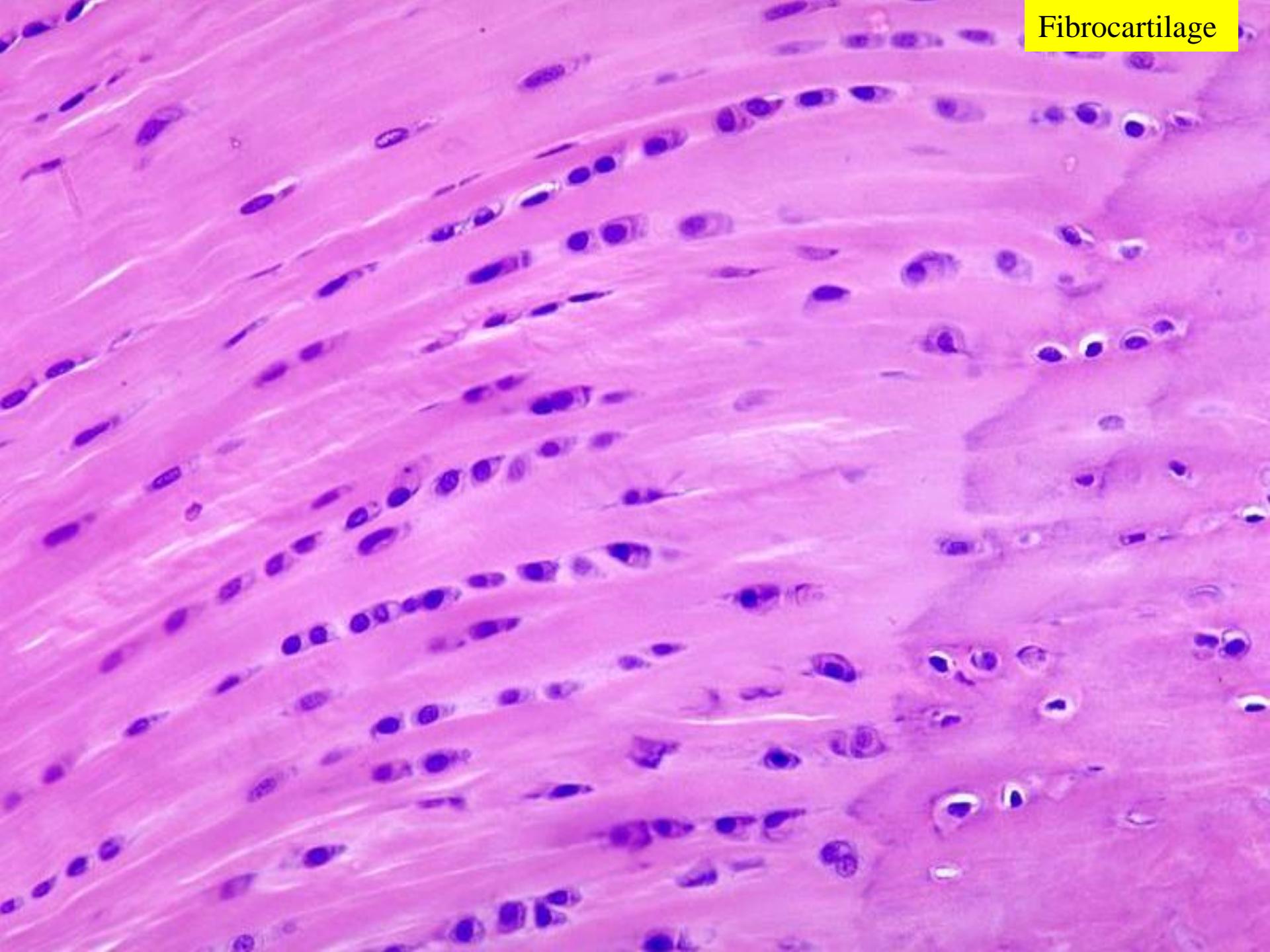
Elastic cartilage



Fibrocartilage

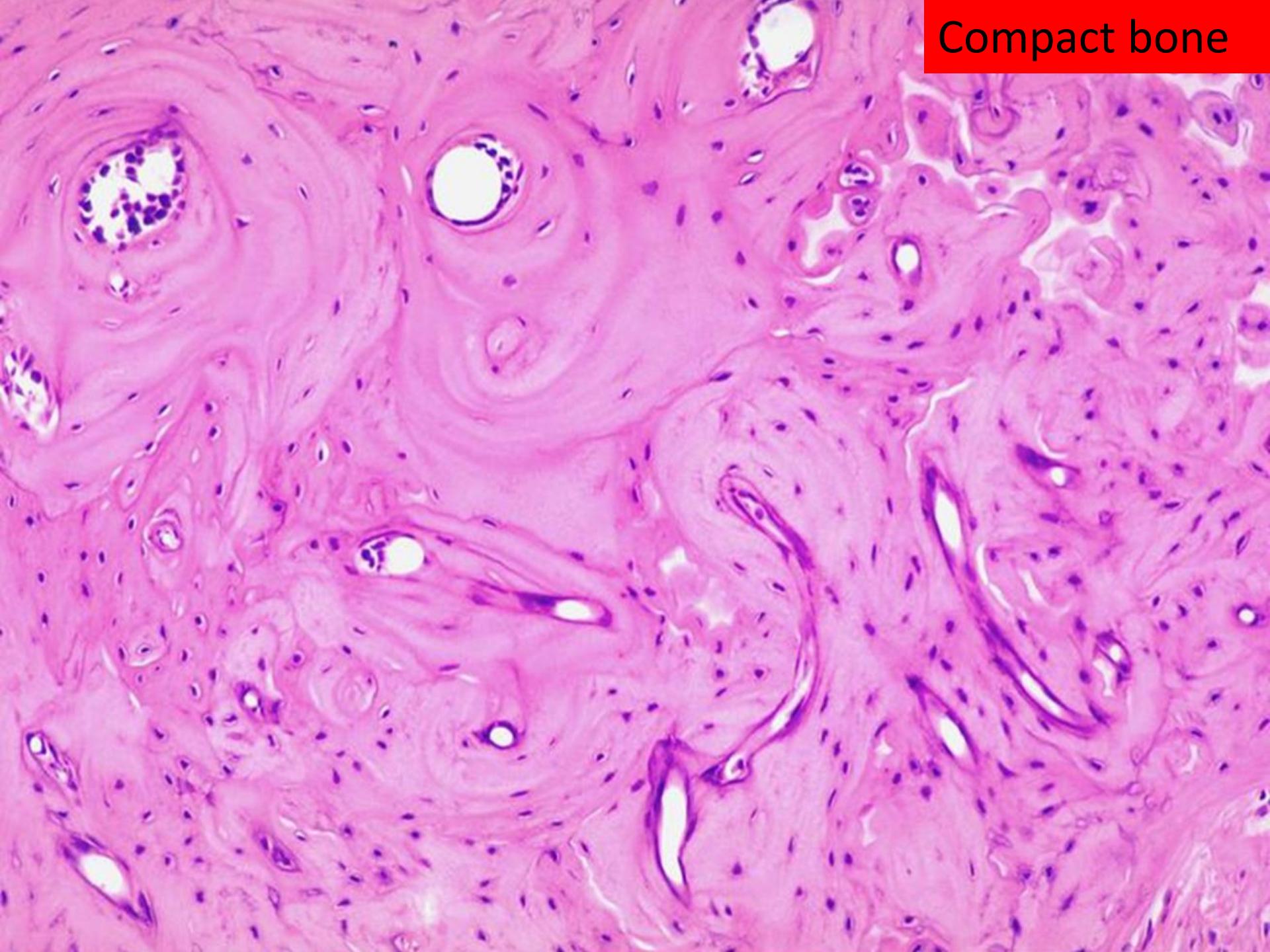
Collagen type 1  
Chondrocyte

Fibrocartilage

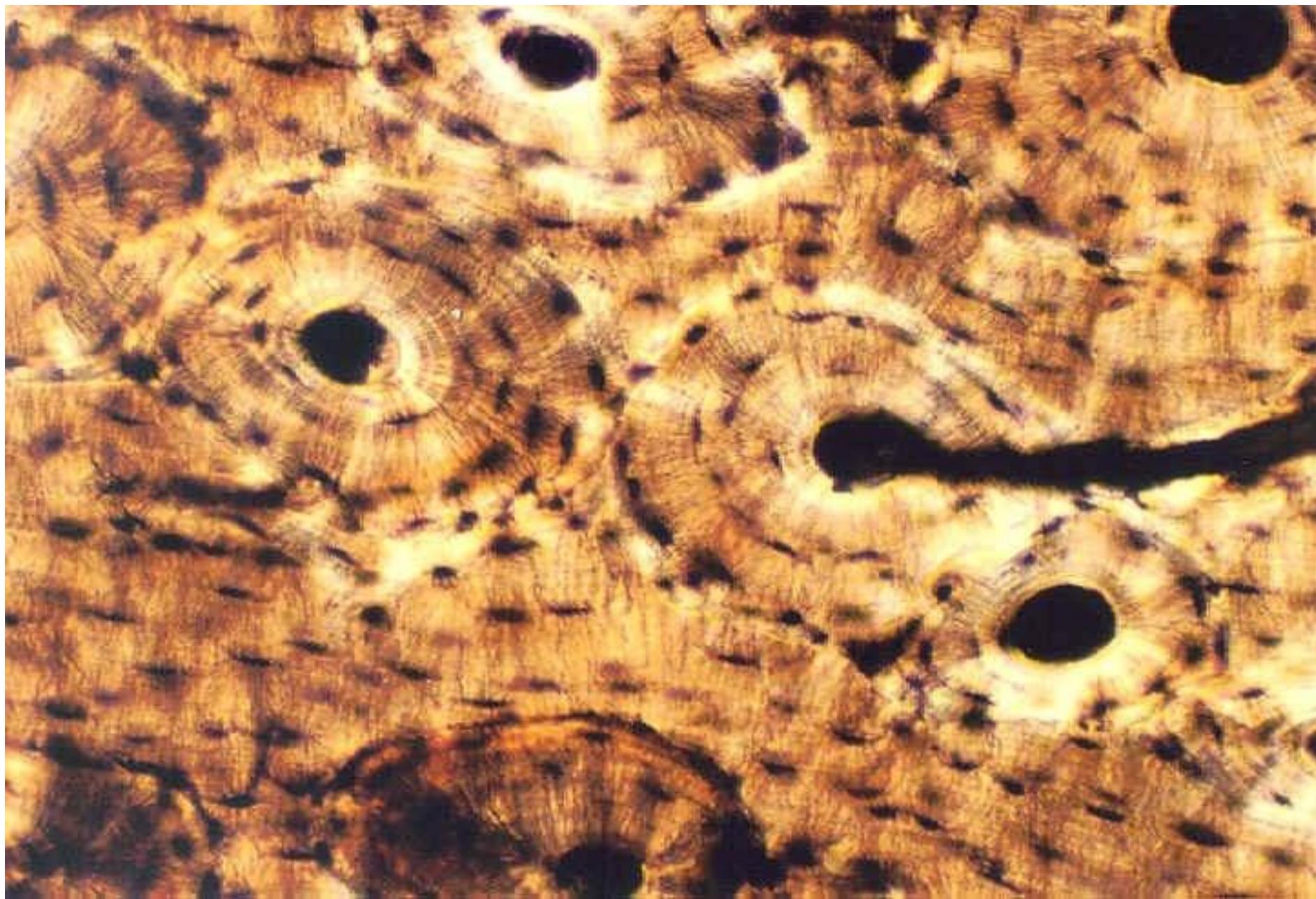


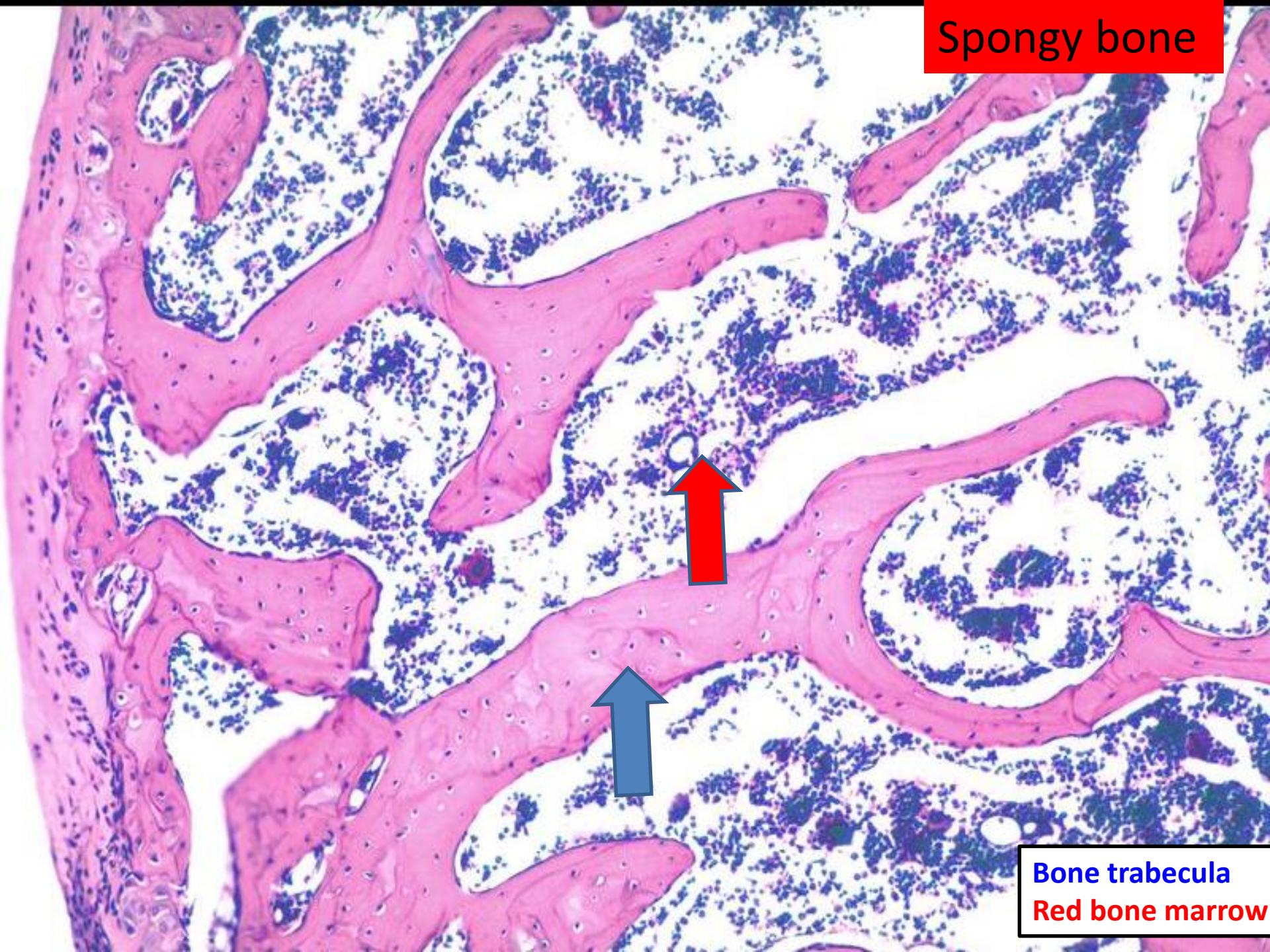
# Bone tissue

Compact bone



Compact bone



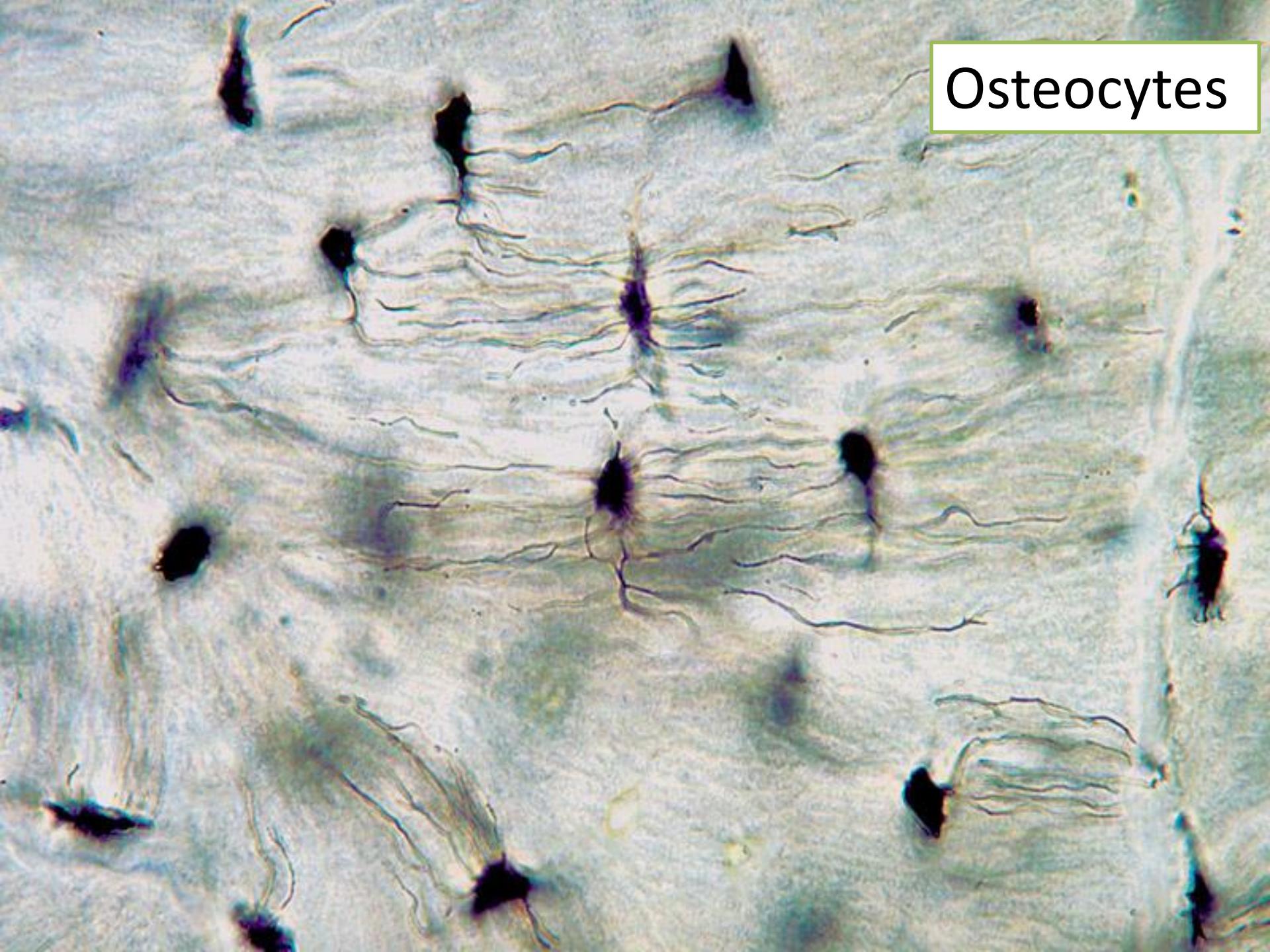


Spongy bone

Bone trabecula  
Red bone marrow

Osteoid

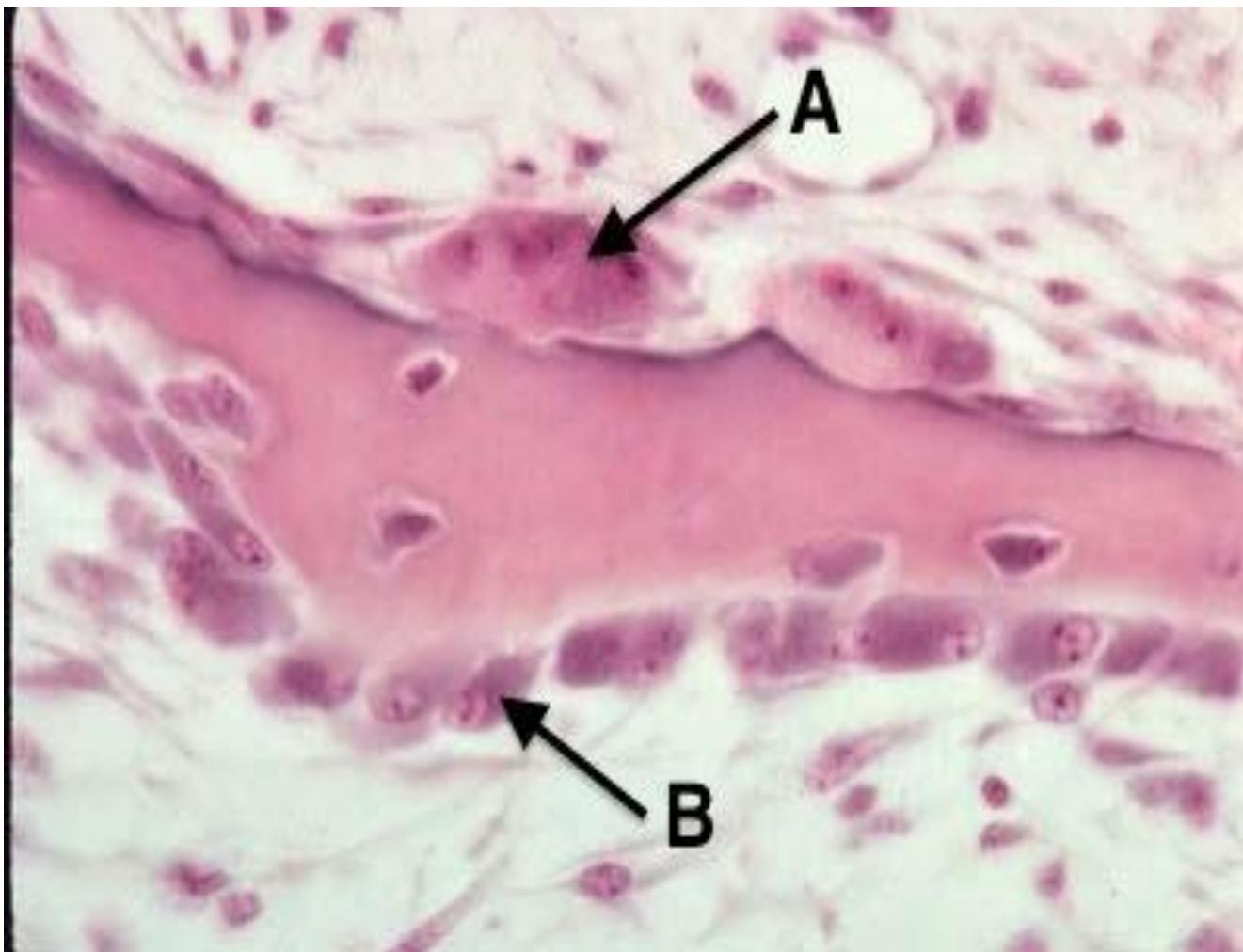


A micrograph showing a dense network of osteocytes within a bone matrix. The osteocytes are large, irregularly shaped cells with prominent purple-stained nuclei. They are interconnected by a complex network of thin, radiating processes called processes of apposition. The surrounding matrix appears as a light greenish-blue color.

Osteocytes

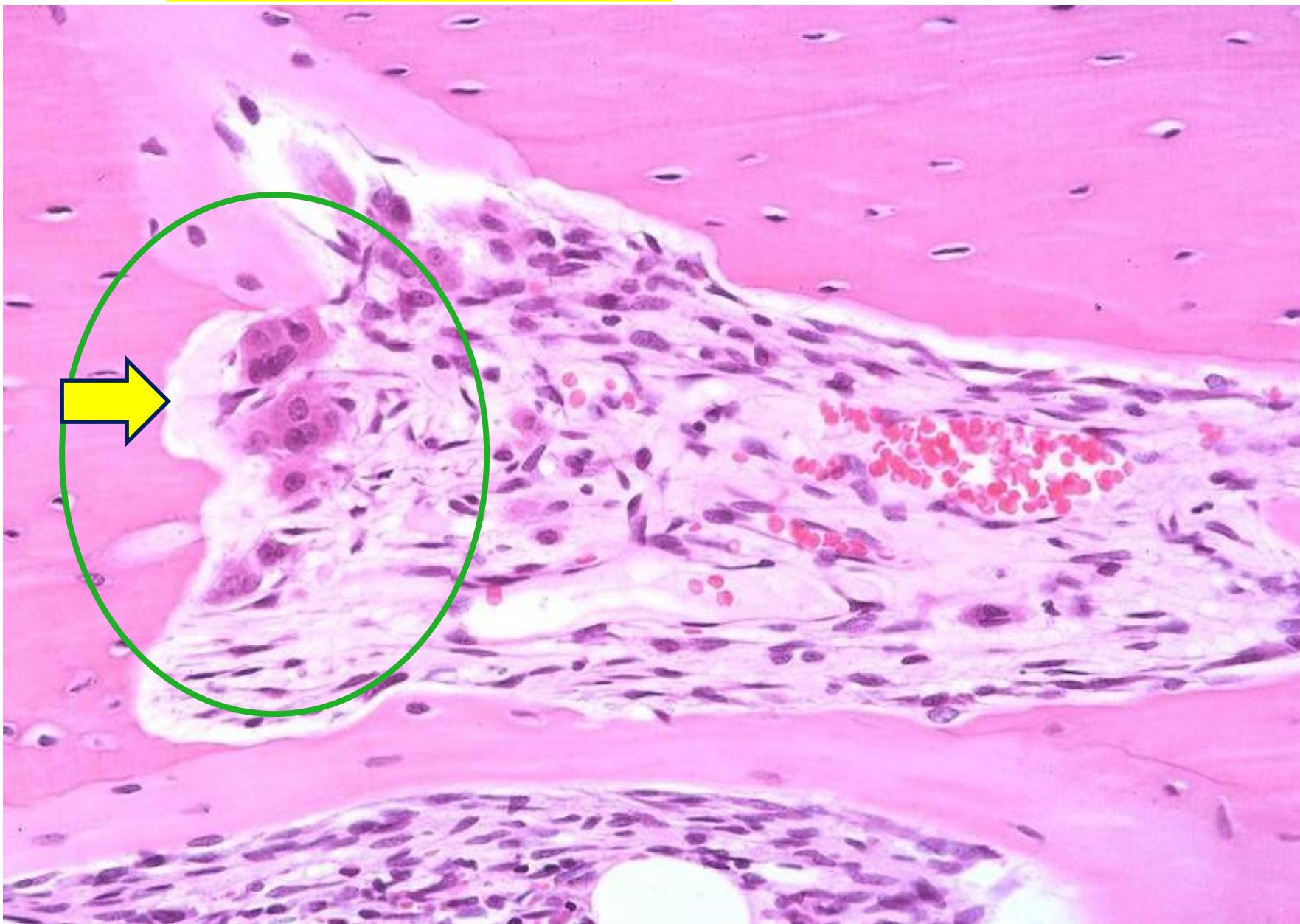
A: Osteoclast

B: Osteoblast



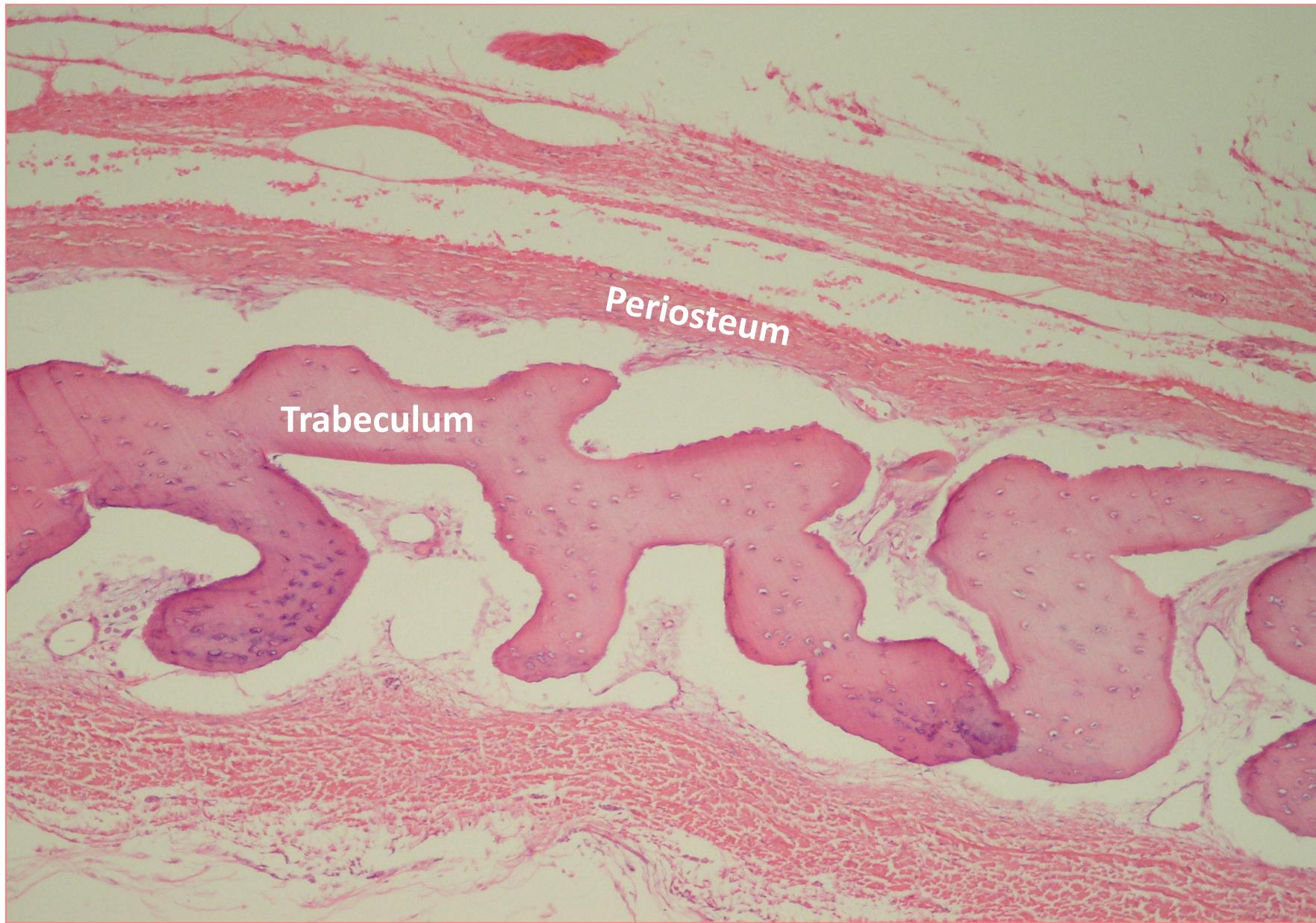
Howship lacuna

Osteoclasts

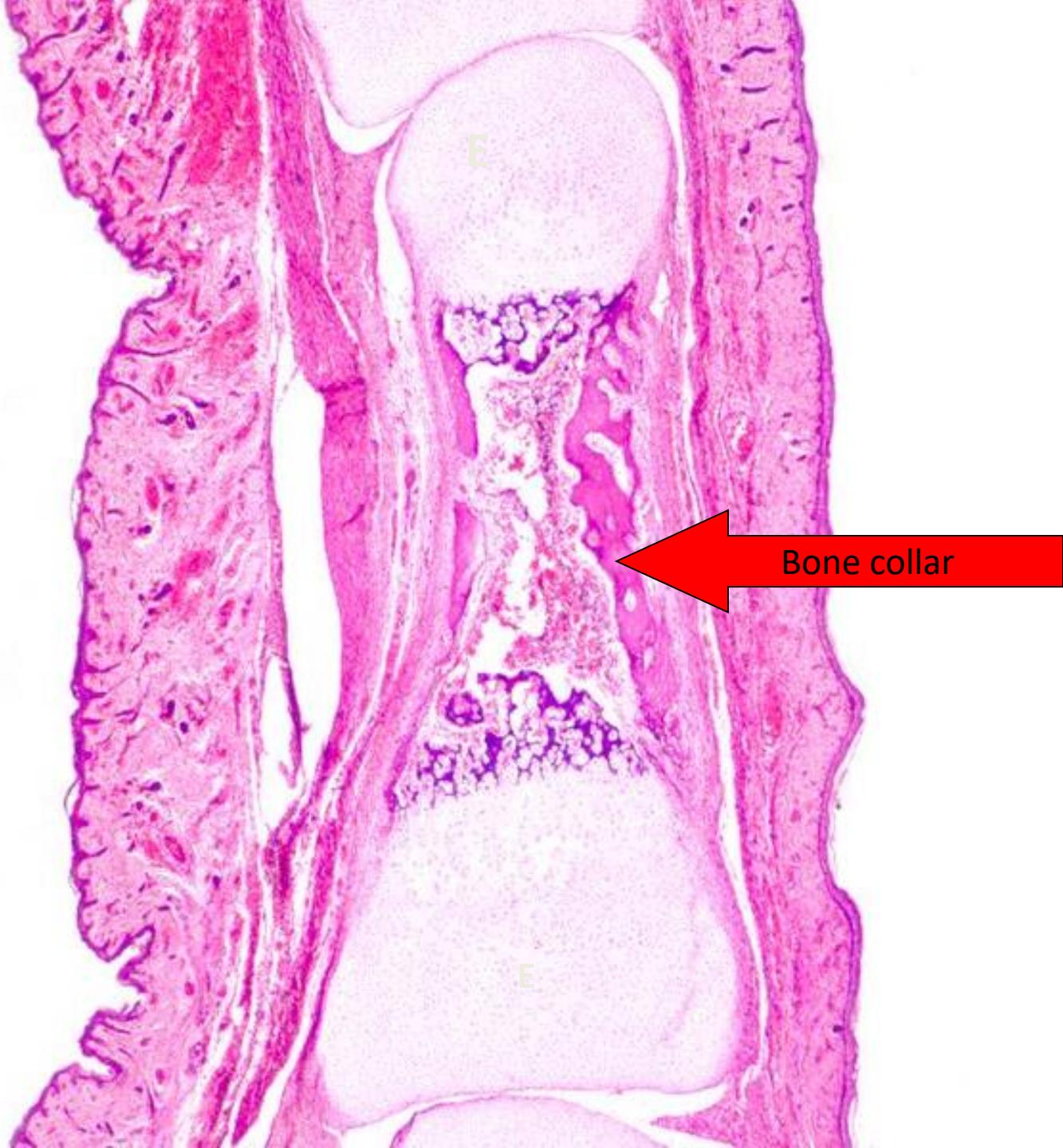


# Bone ossification

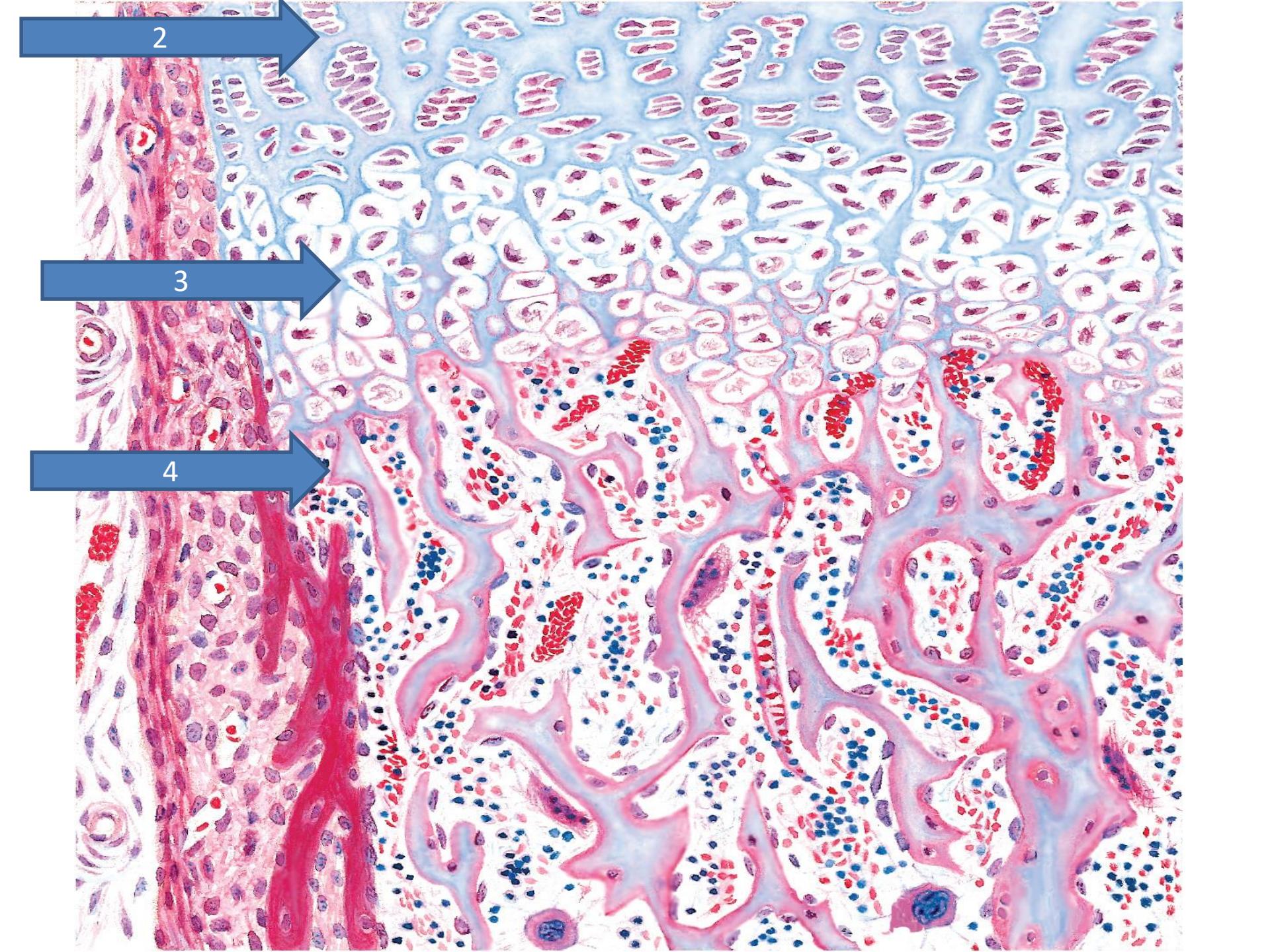
## Intramembranous ossification



Endochondral  
ossification



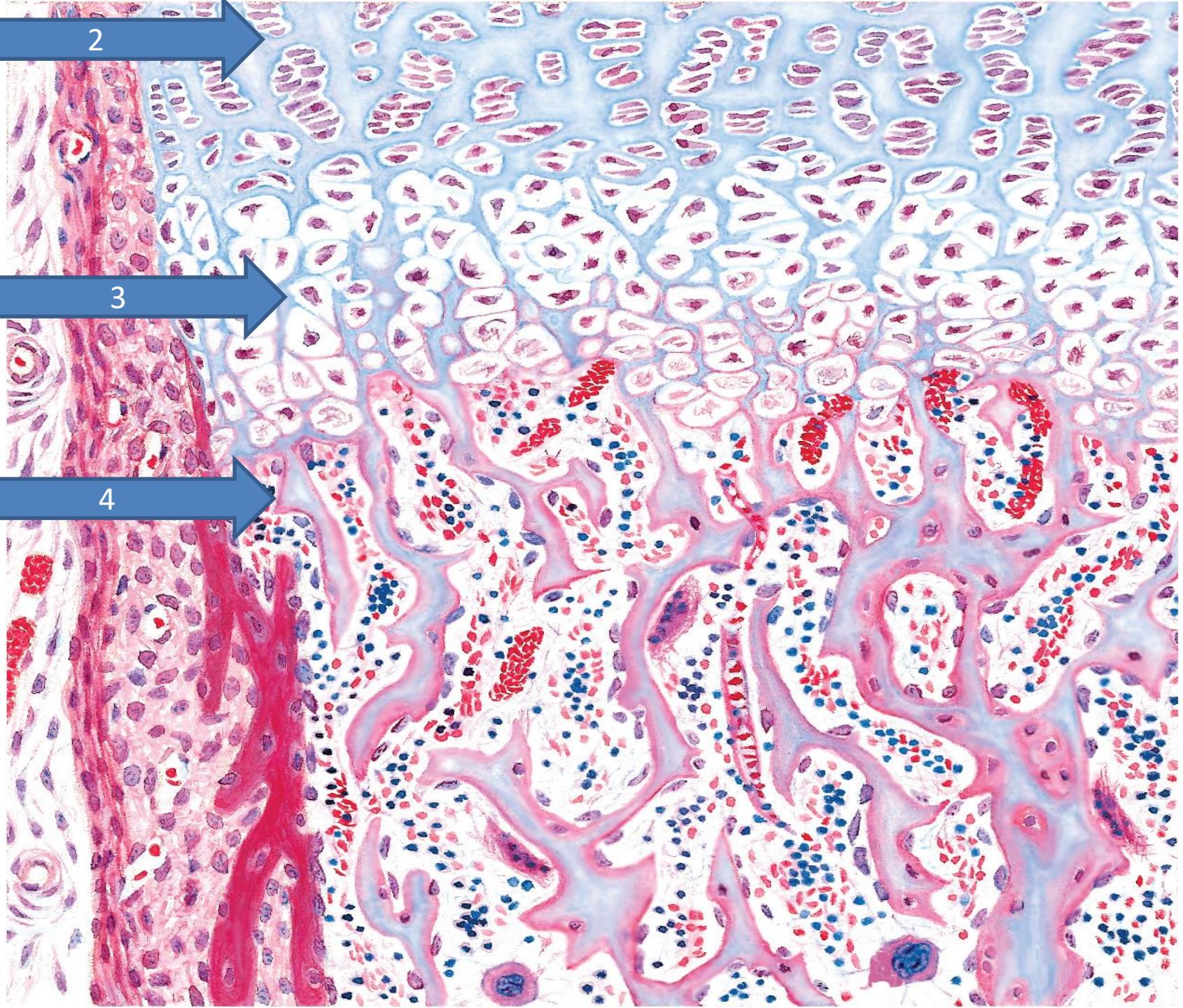
Bone collar

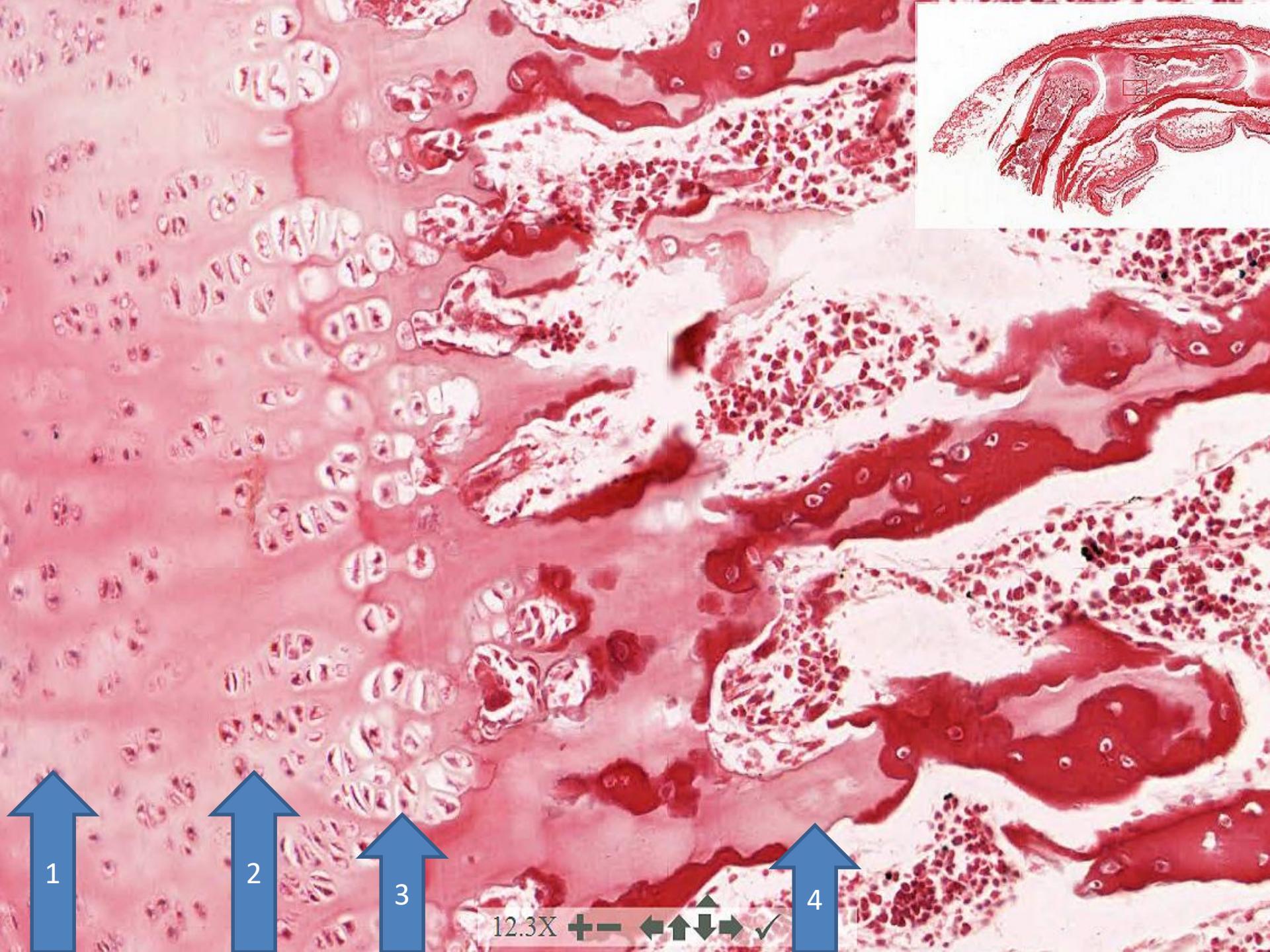


2

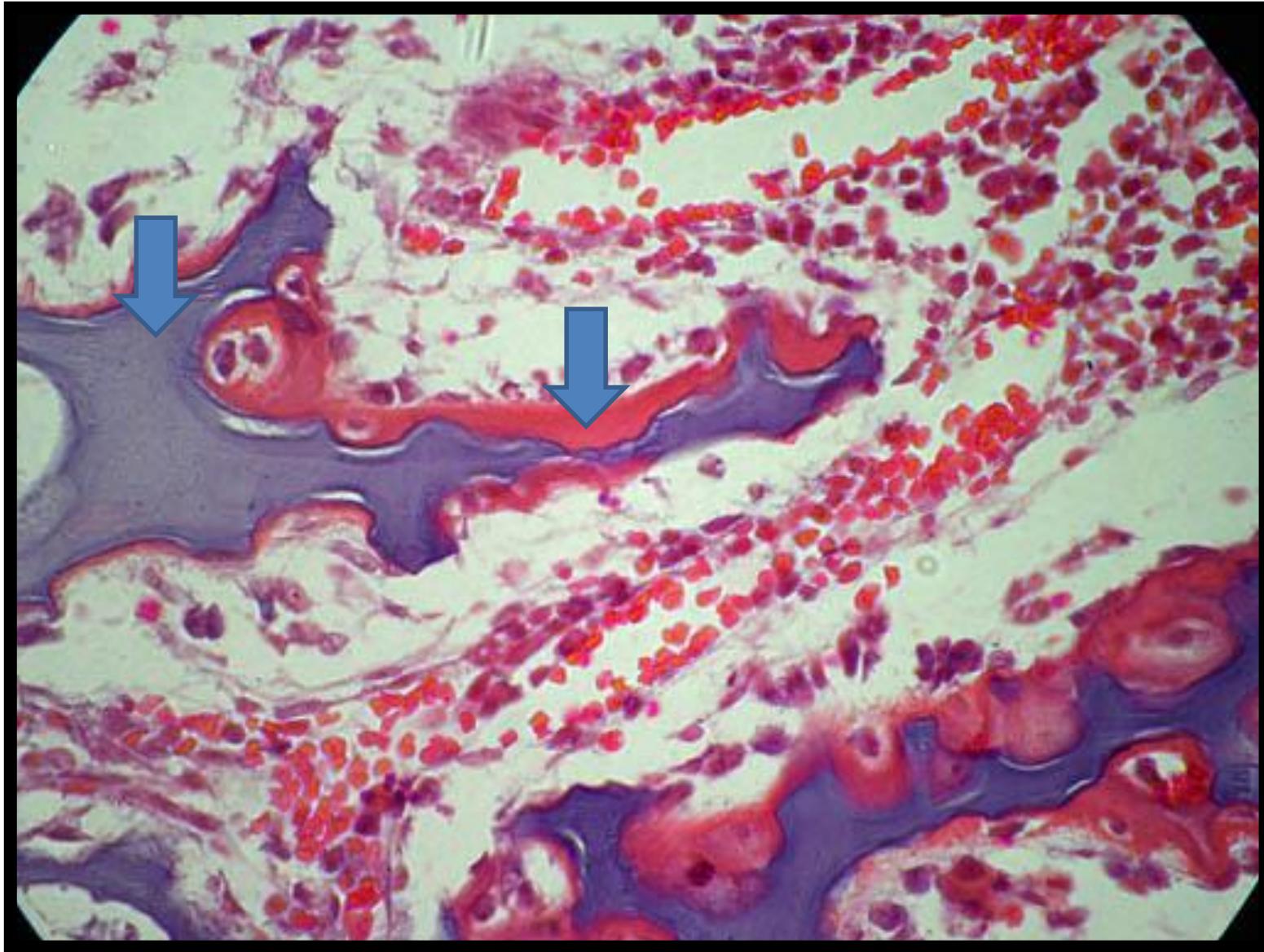
3

4



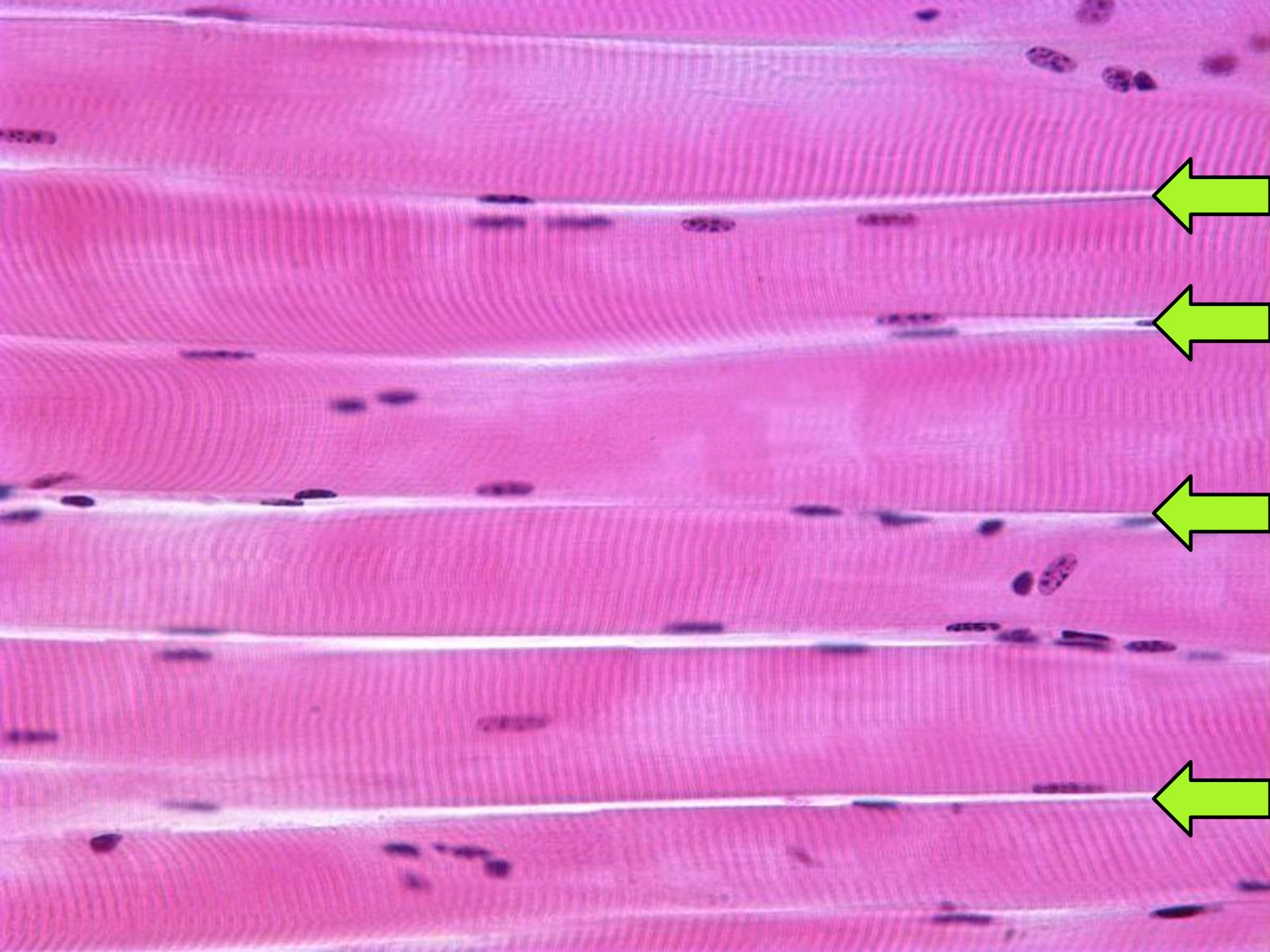


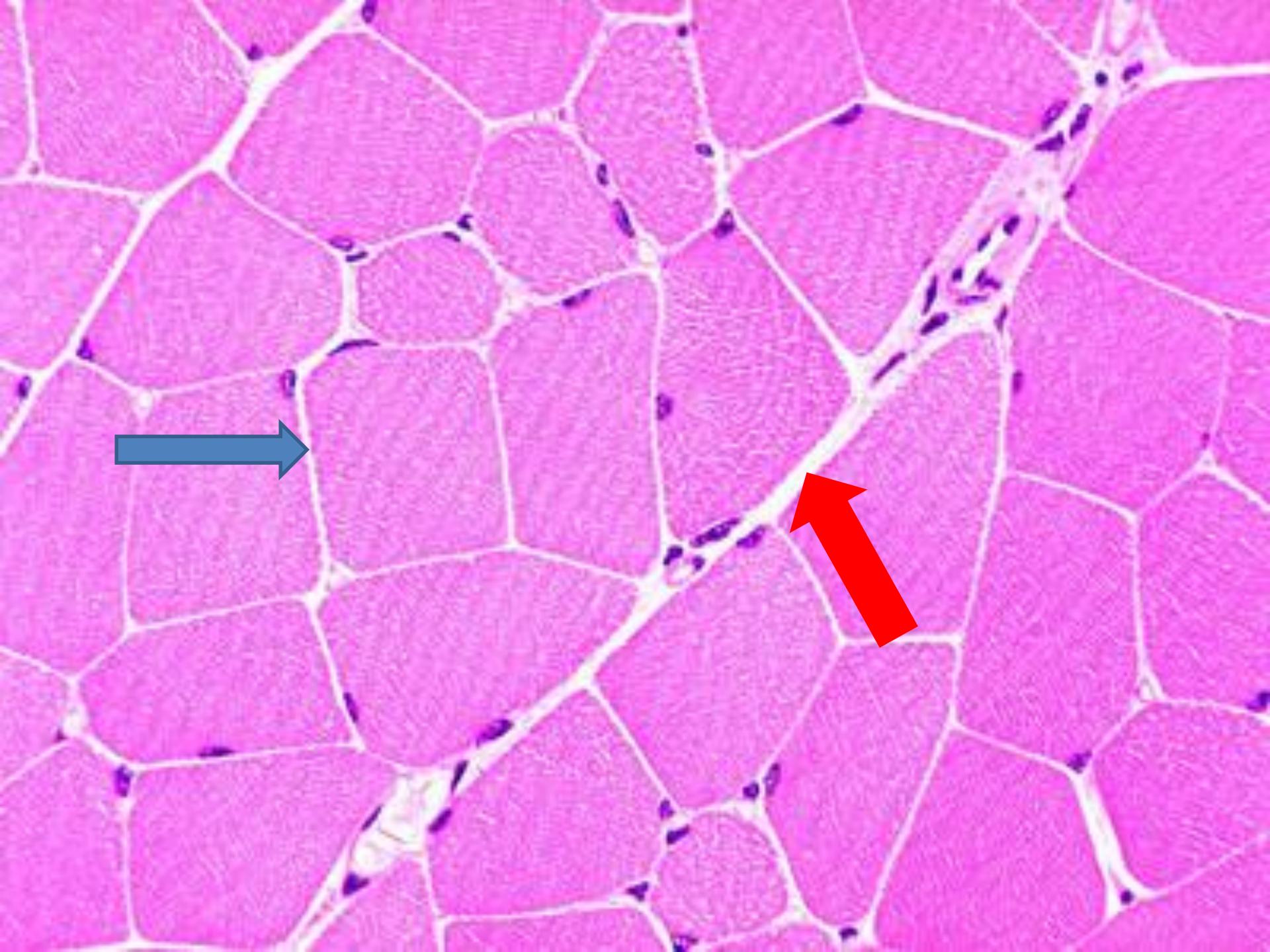
# Ossification zone

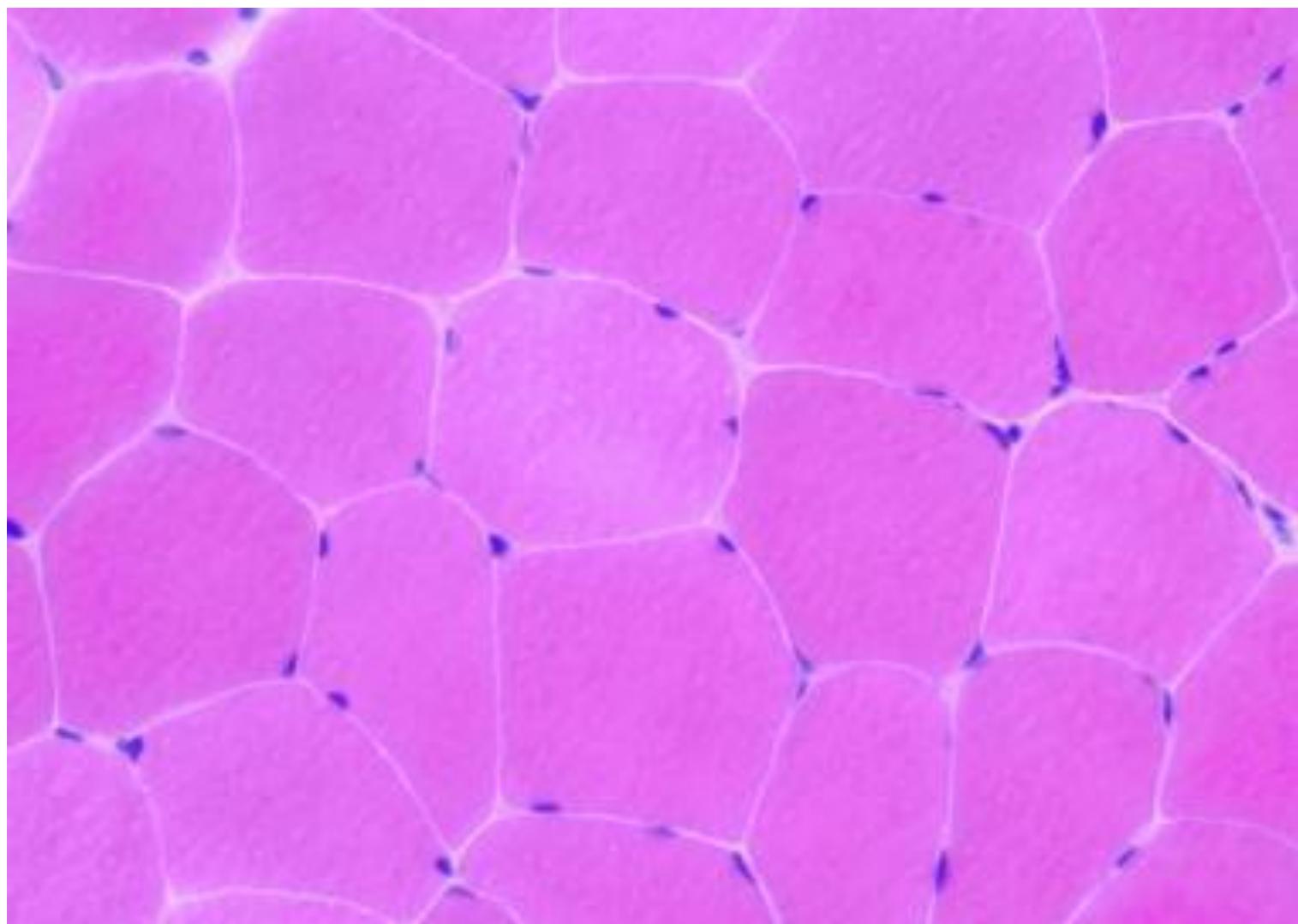


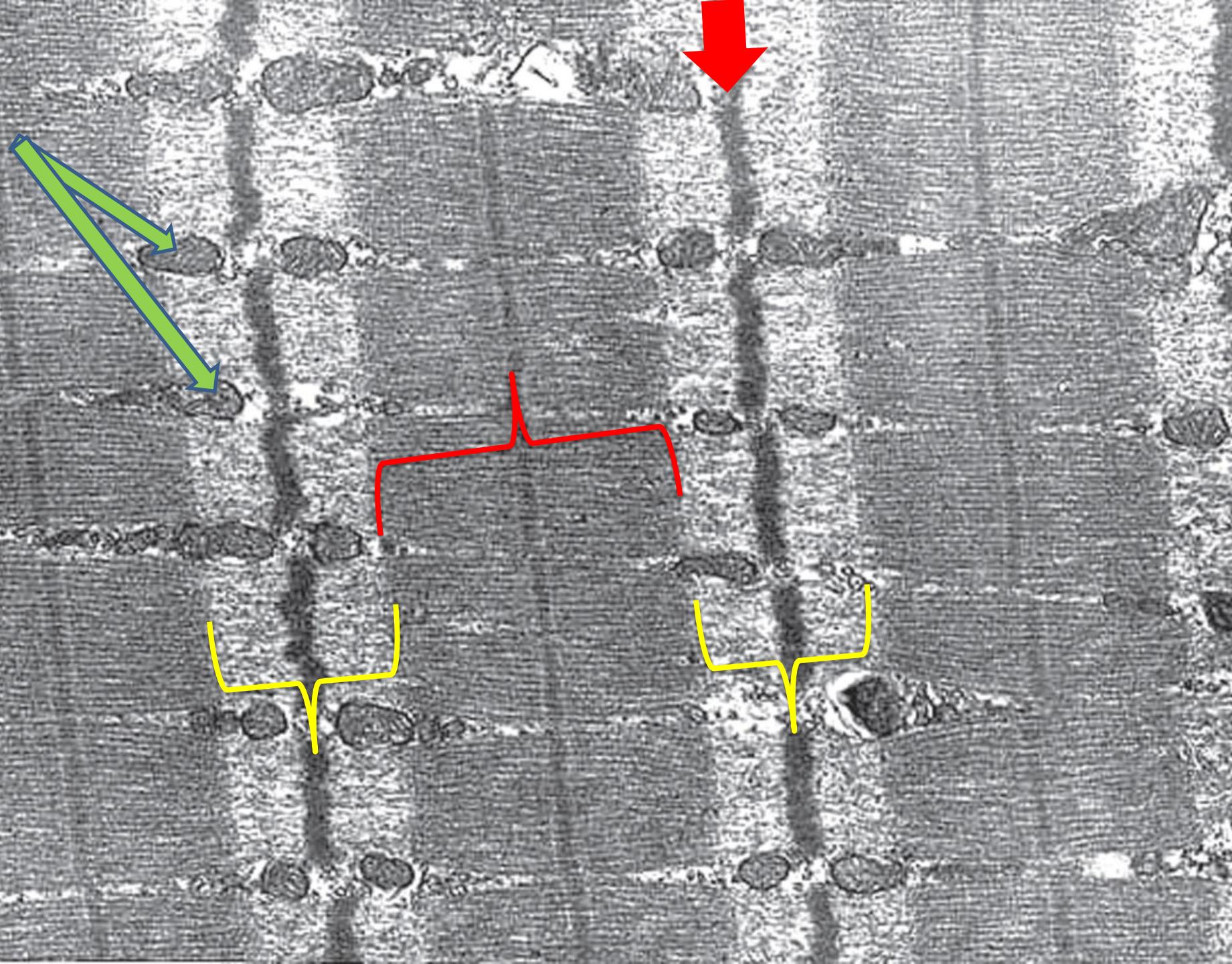
# Muscle tissue

# Skeletal muscle

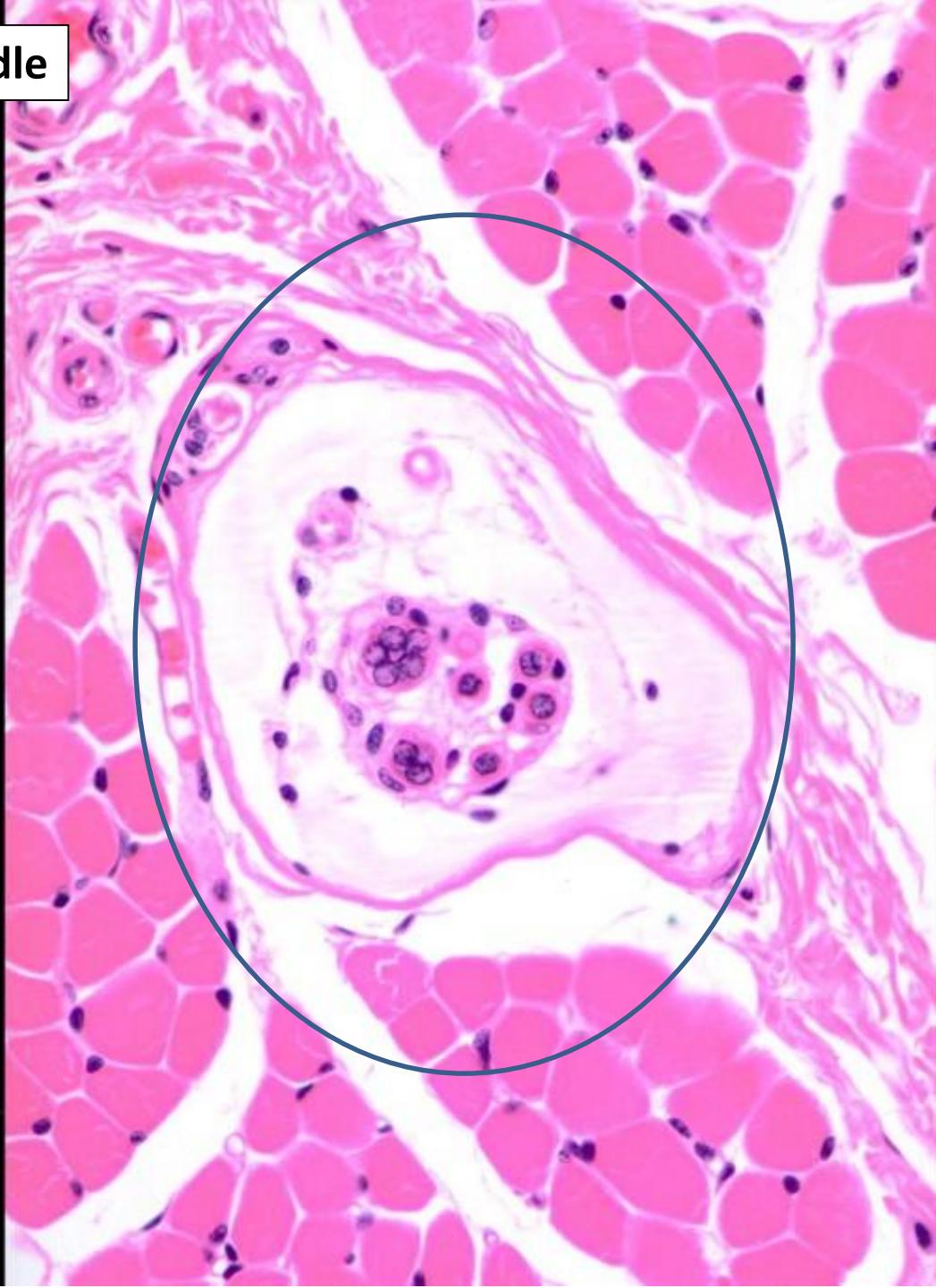


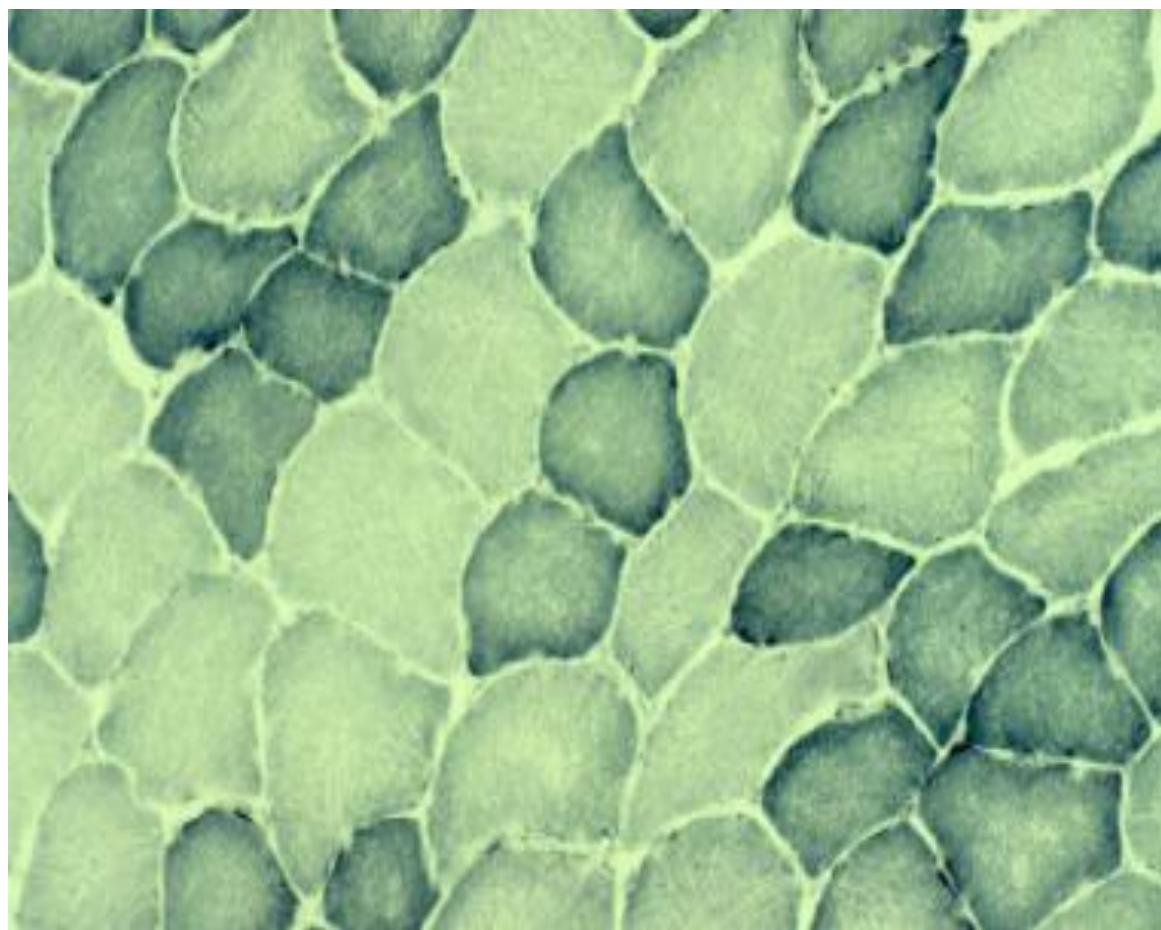




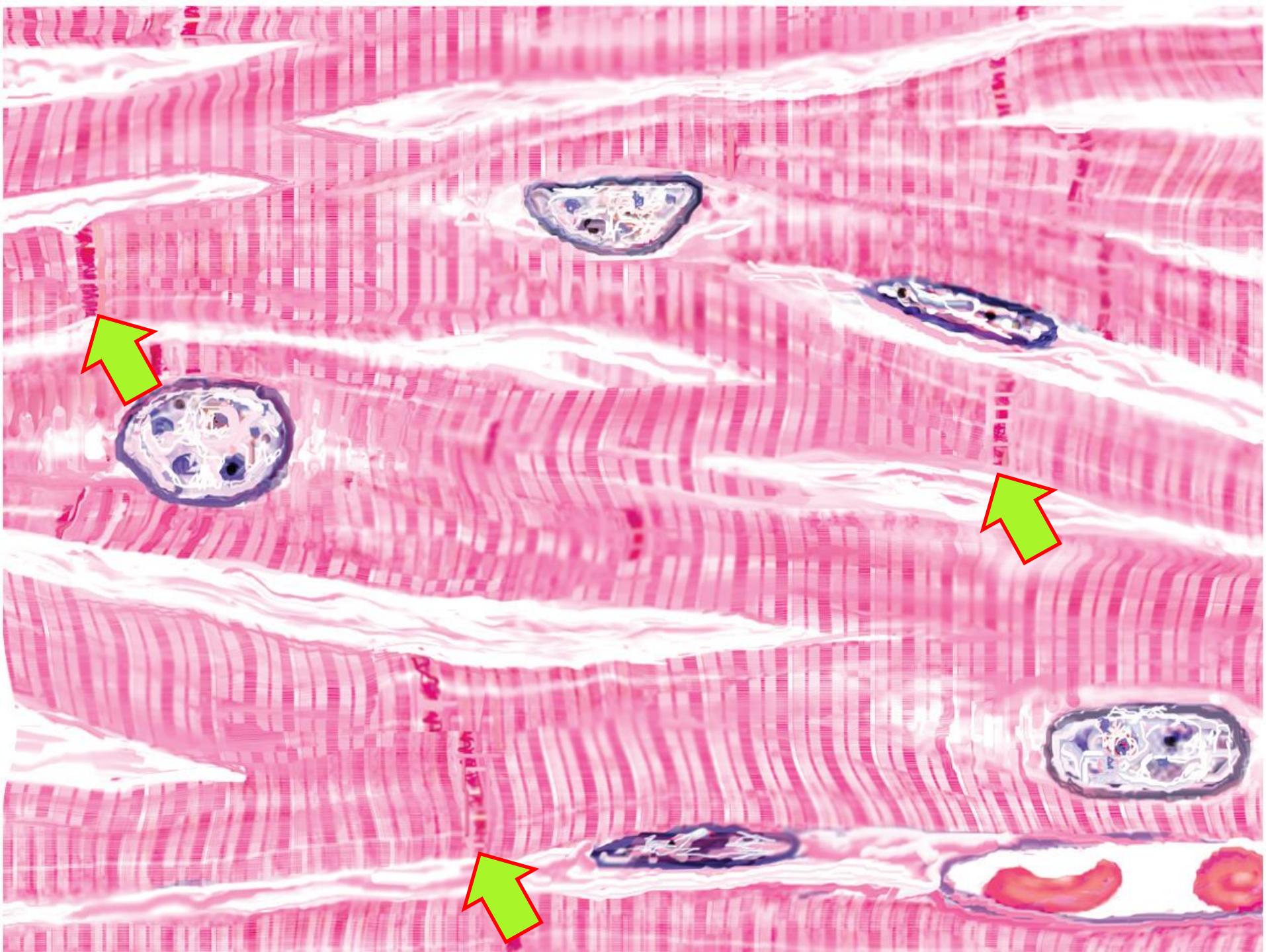


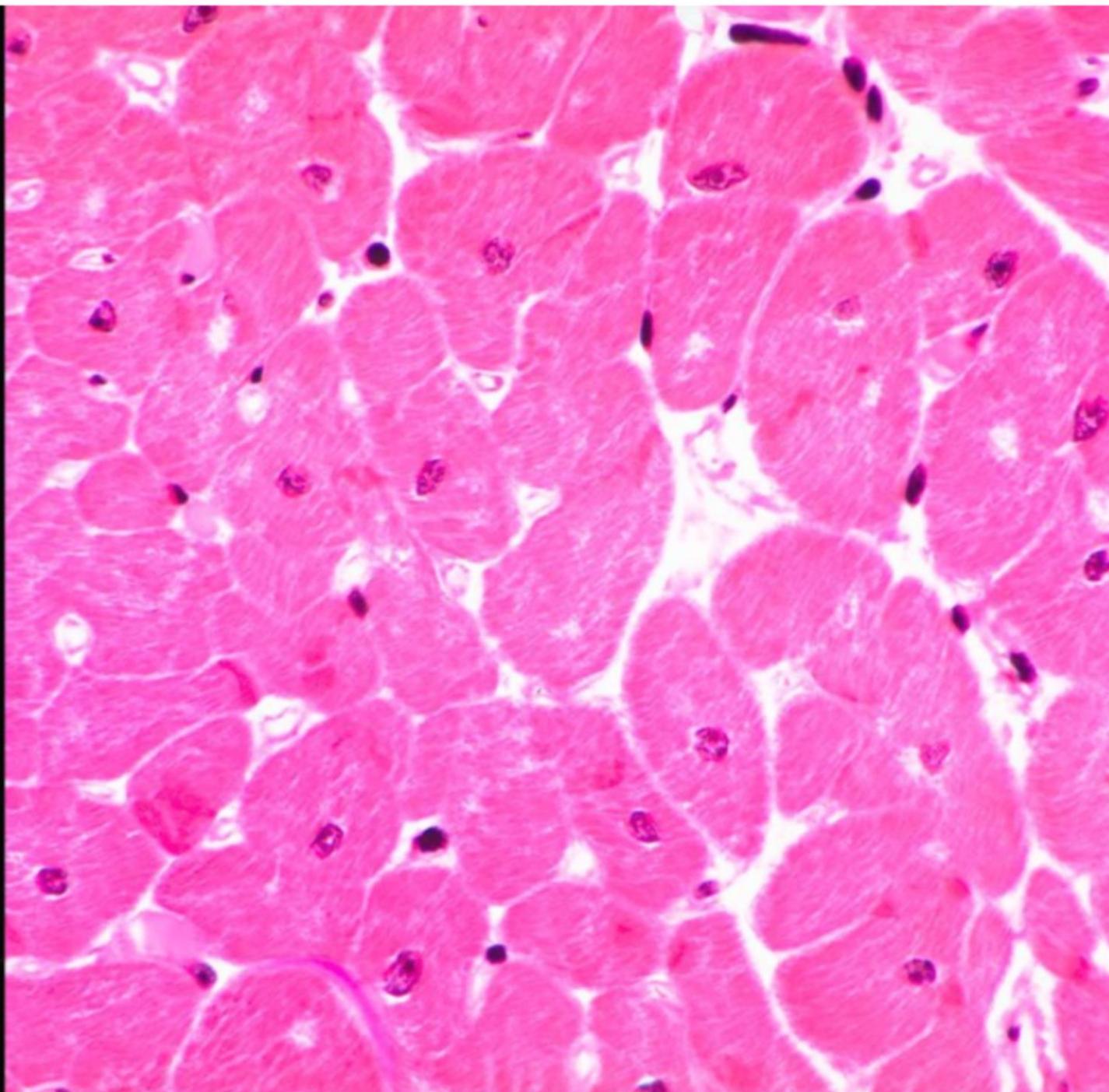
Muscle spindle

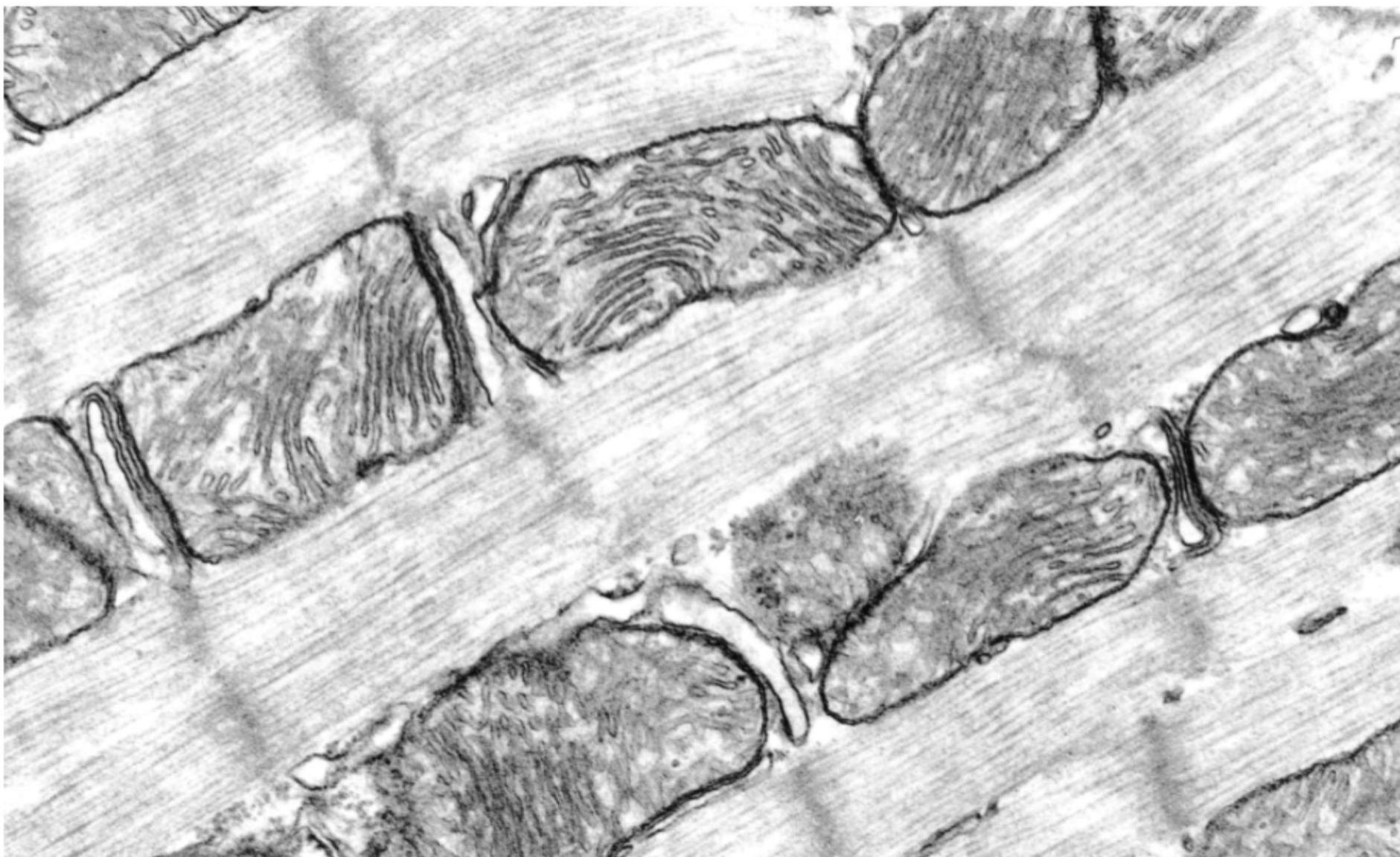




# Cardiac muscle







# Smooth muscle

