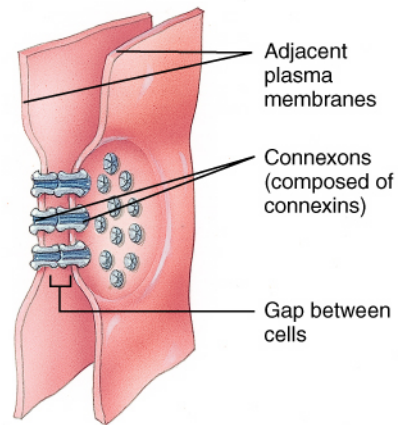
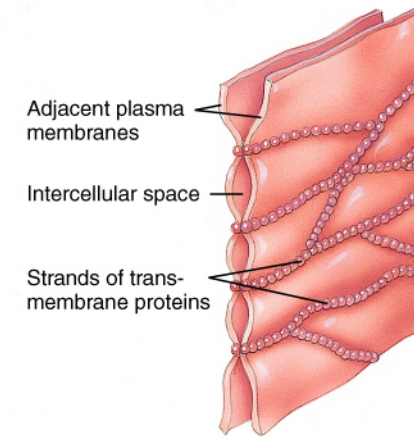
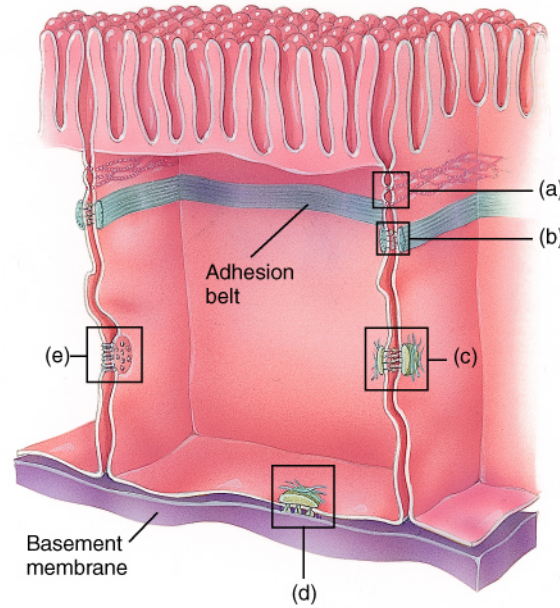


Tissues

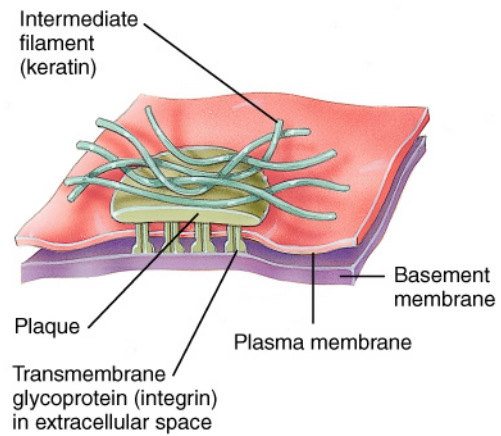
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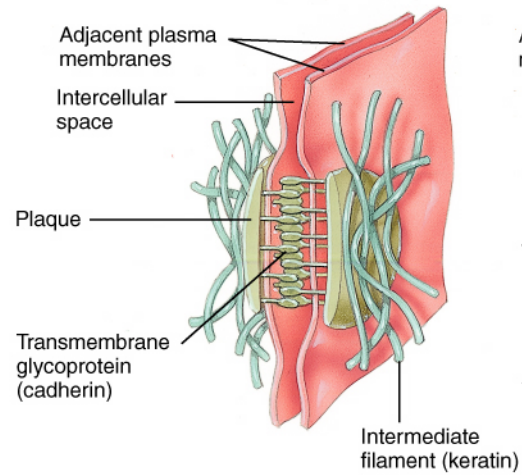
(e) Gap junction



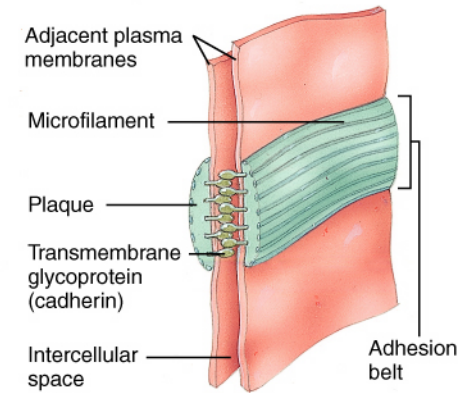
(a) Tight junction



(d) Hemidesmosome



(c) Desmosome



(b) Adherens junction

Four Tissue Types

- Epithelia
- Connective
- Muscle
- Nervous

Epithelia

Cell Shapes

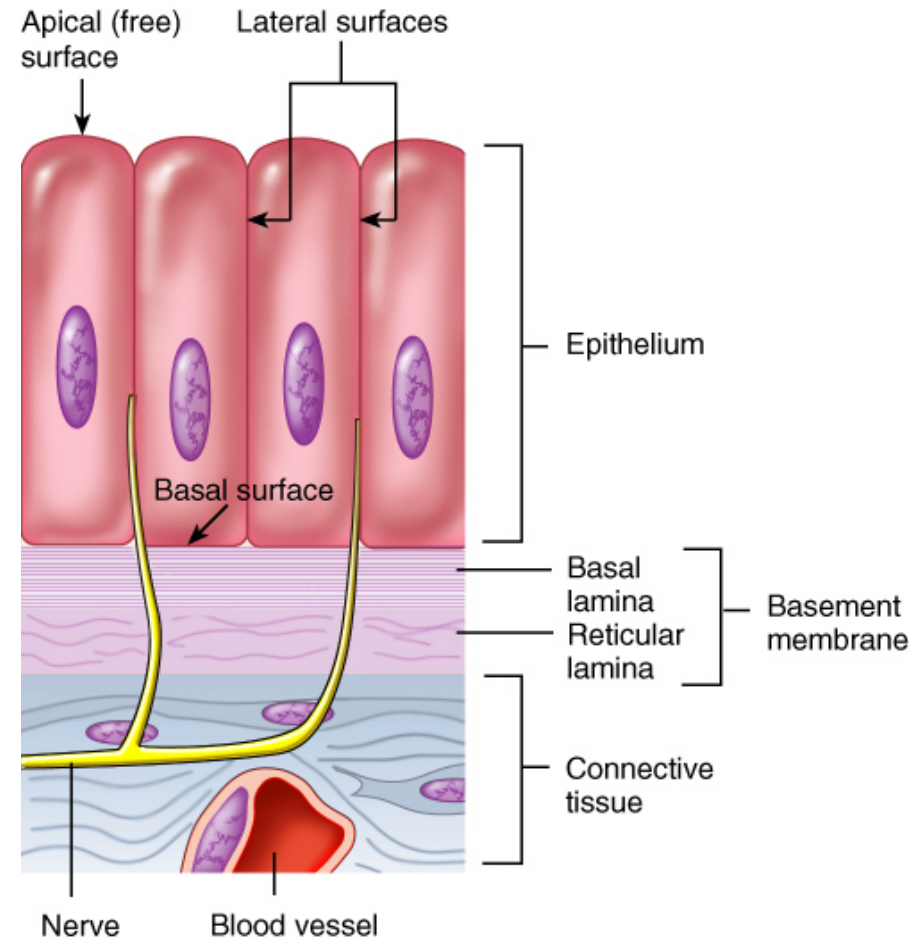
1. Squamous
2. Cuboidal
3. Columnar

Arrangement

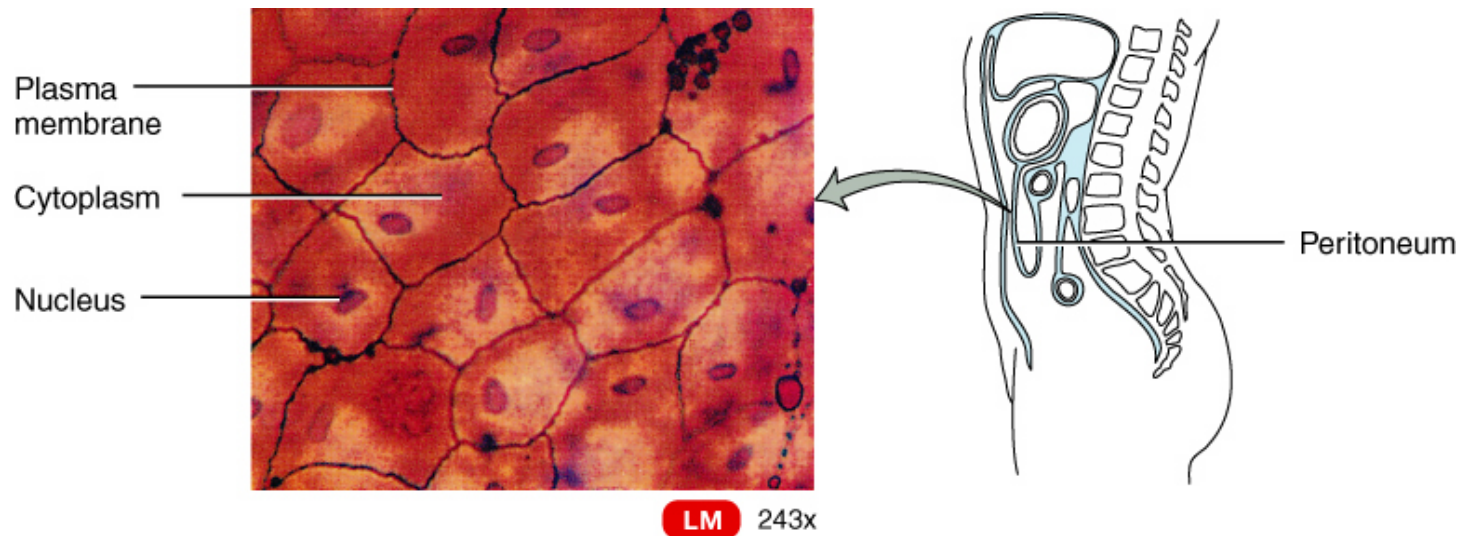
1. Simple
2. Stratified
3. Pseudostratified

Characteristics of Epithelia

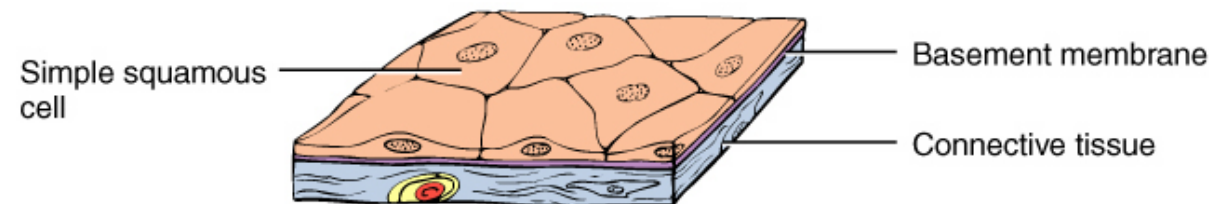
- Apical surface
- Basal surface
- Basement membrane
- Avascular
- Highly mitotic
- Minimal neural connections



Simple Squamous



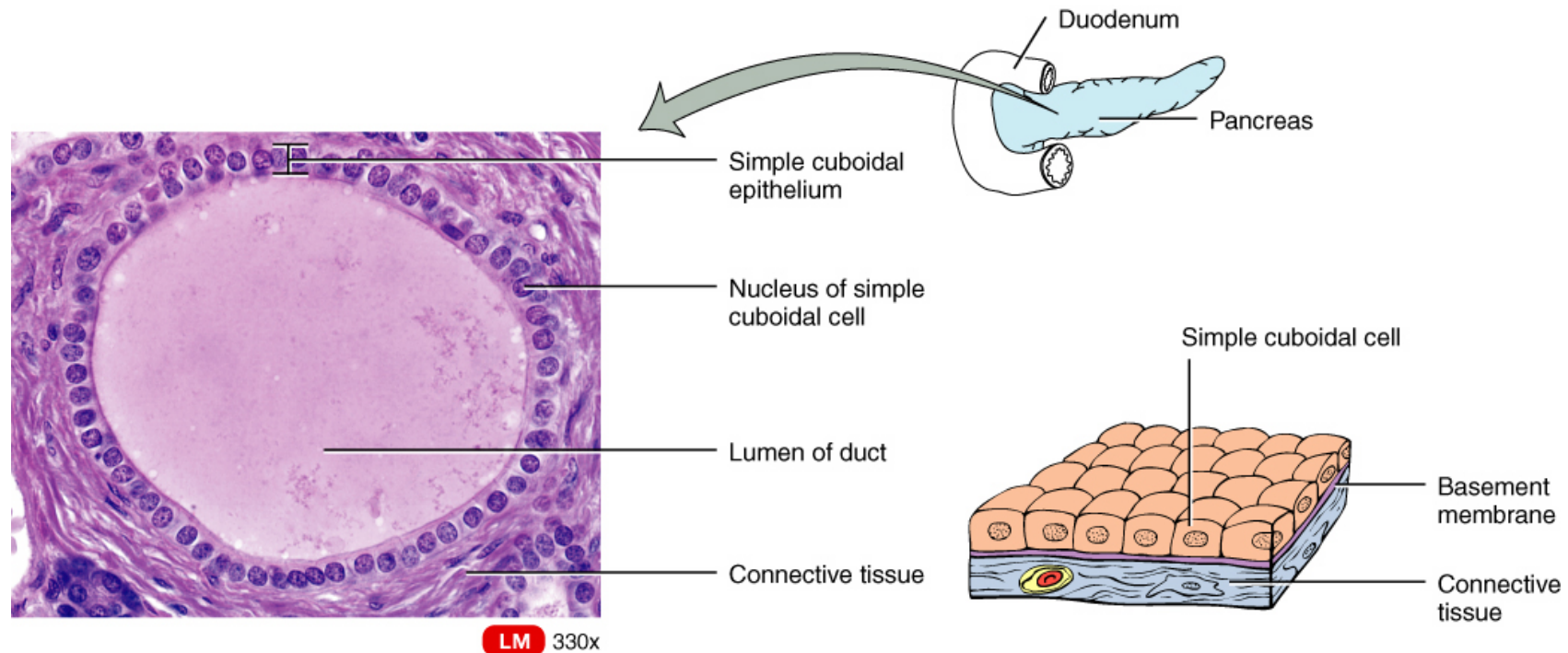
Surface view of simple squamous epithelium of mesothelial lining of peritoneum



Simple squamous epithelium

04.T01A

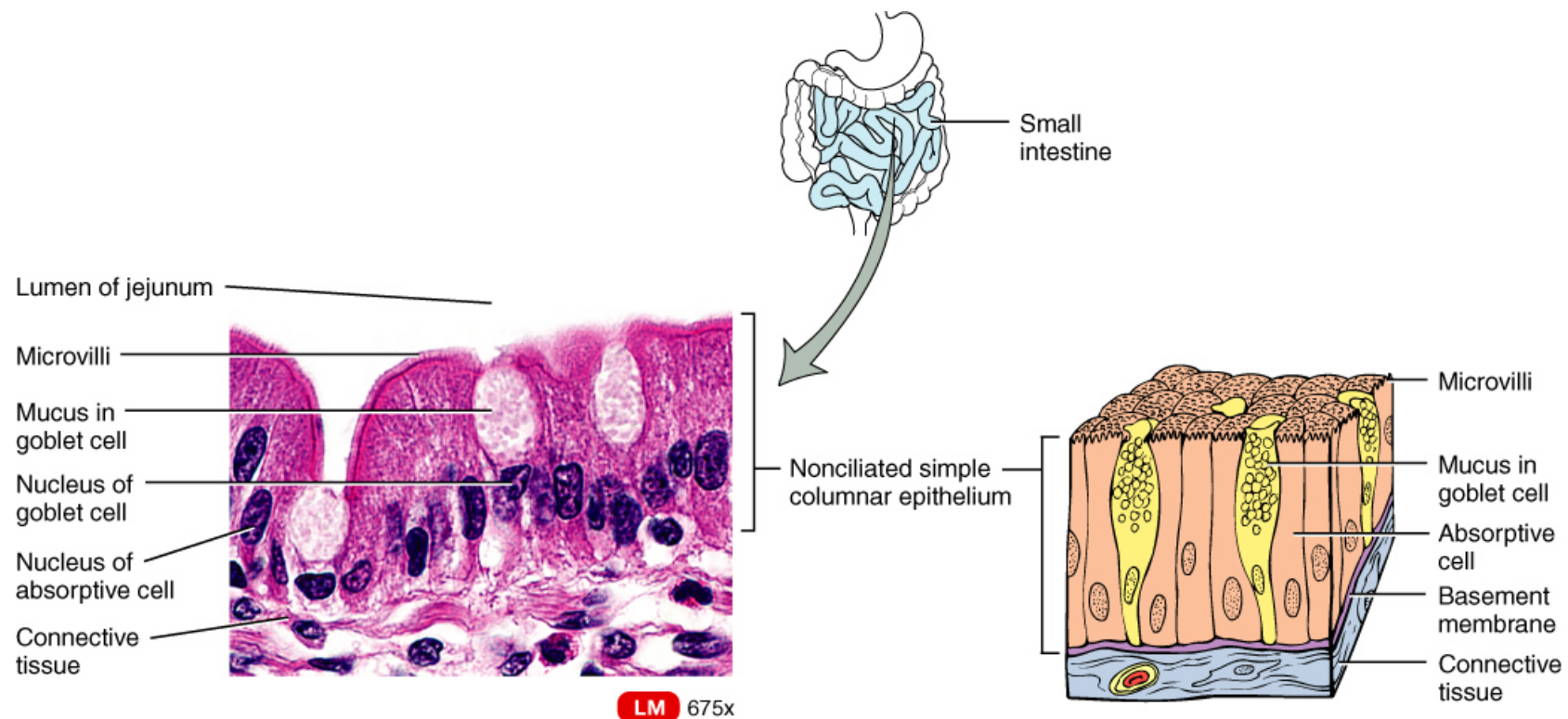
Simple Cuboidal



Sectional view of simple cuboidal epithelium of intralobular duct of pancreas

Simple cuboidal epithelium

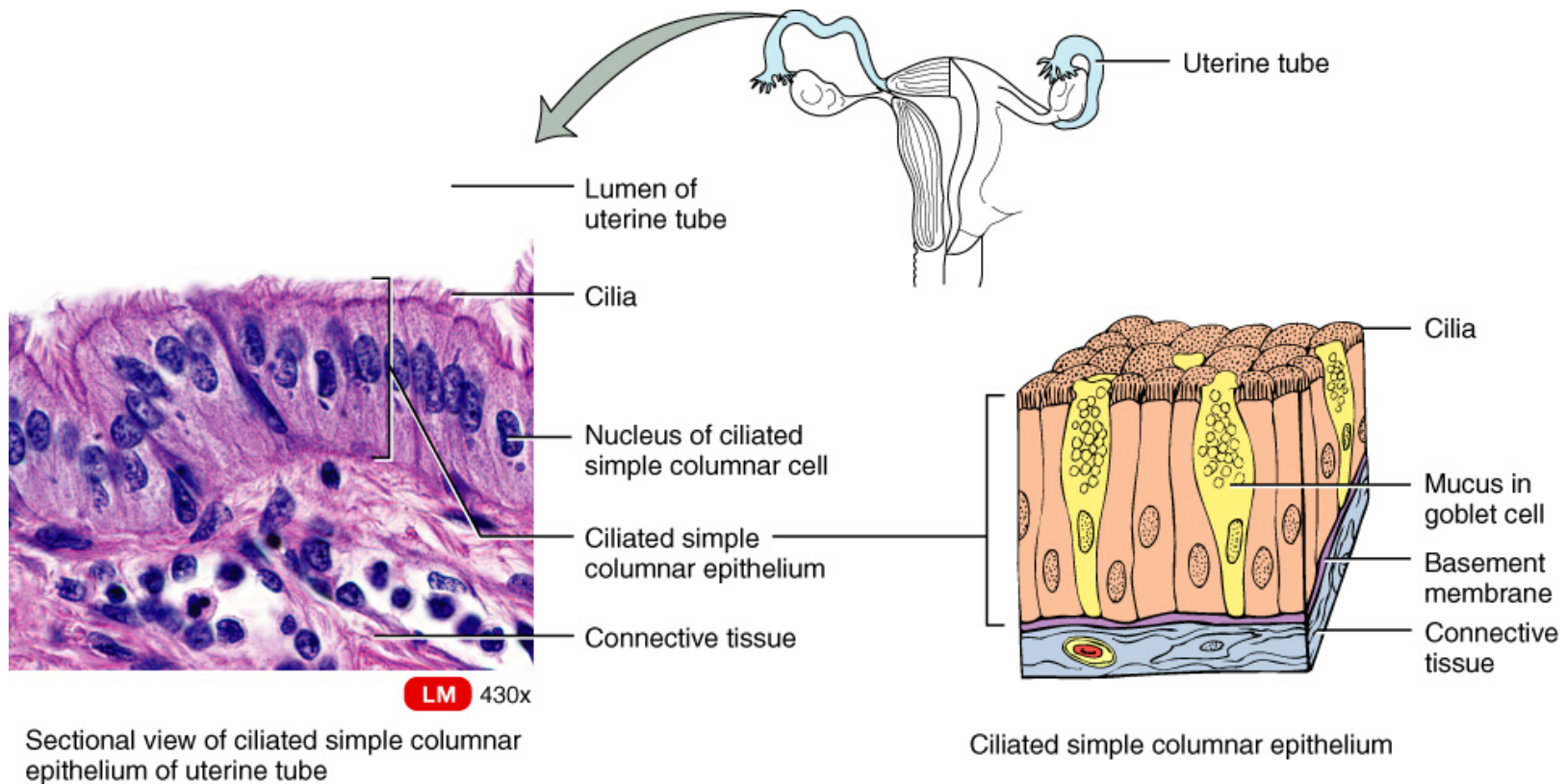
Simple Columnar Epithelium



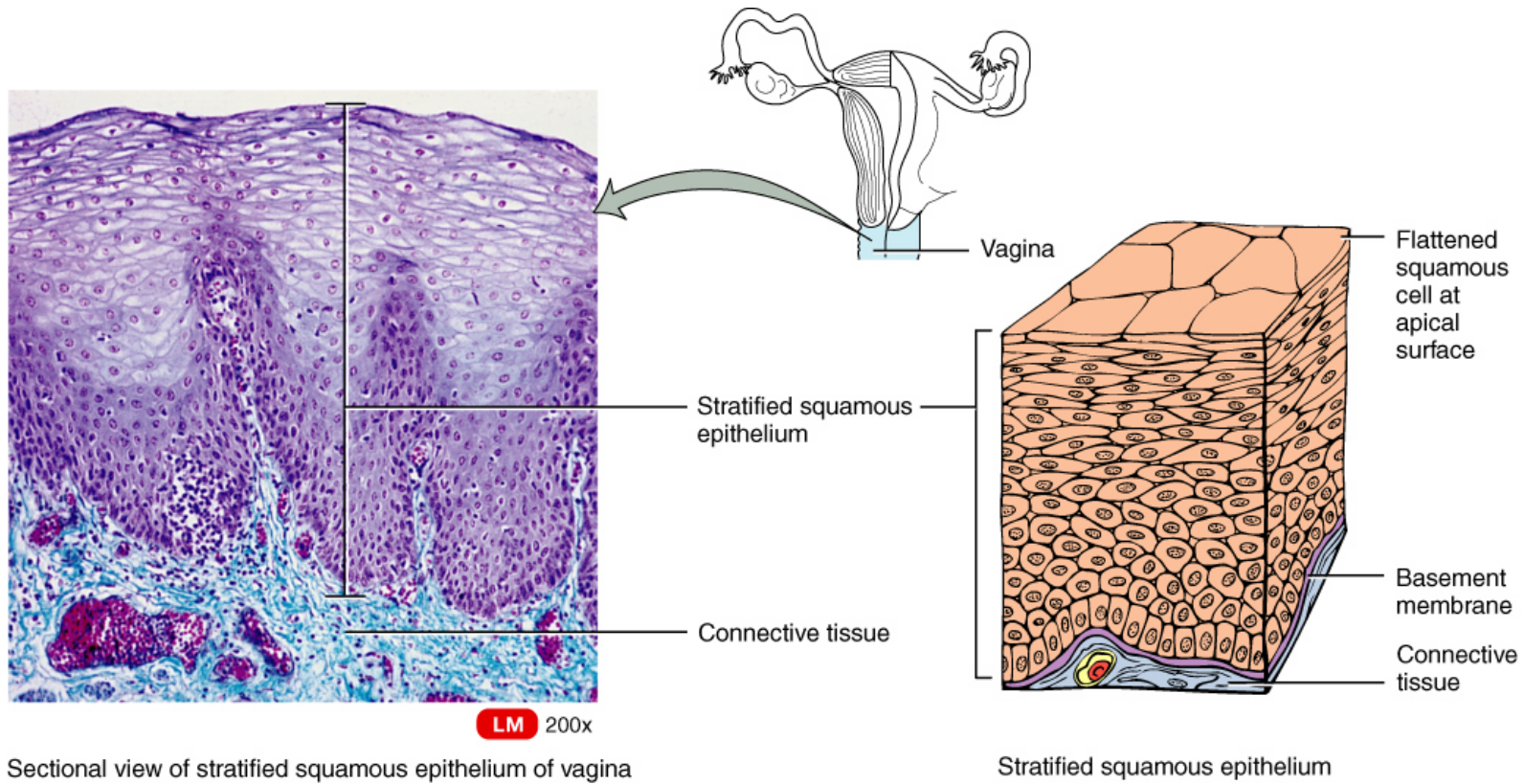
Sectional view of nonciliated simple columnar epithelium of lining of jejunum of small intestine

Nonciliated simple columnar epithelium

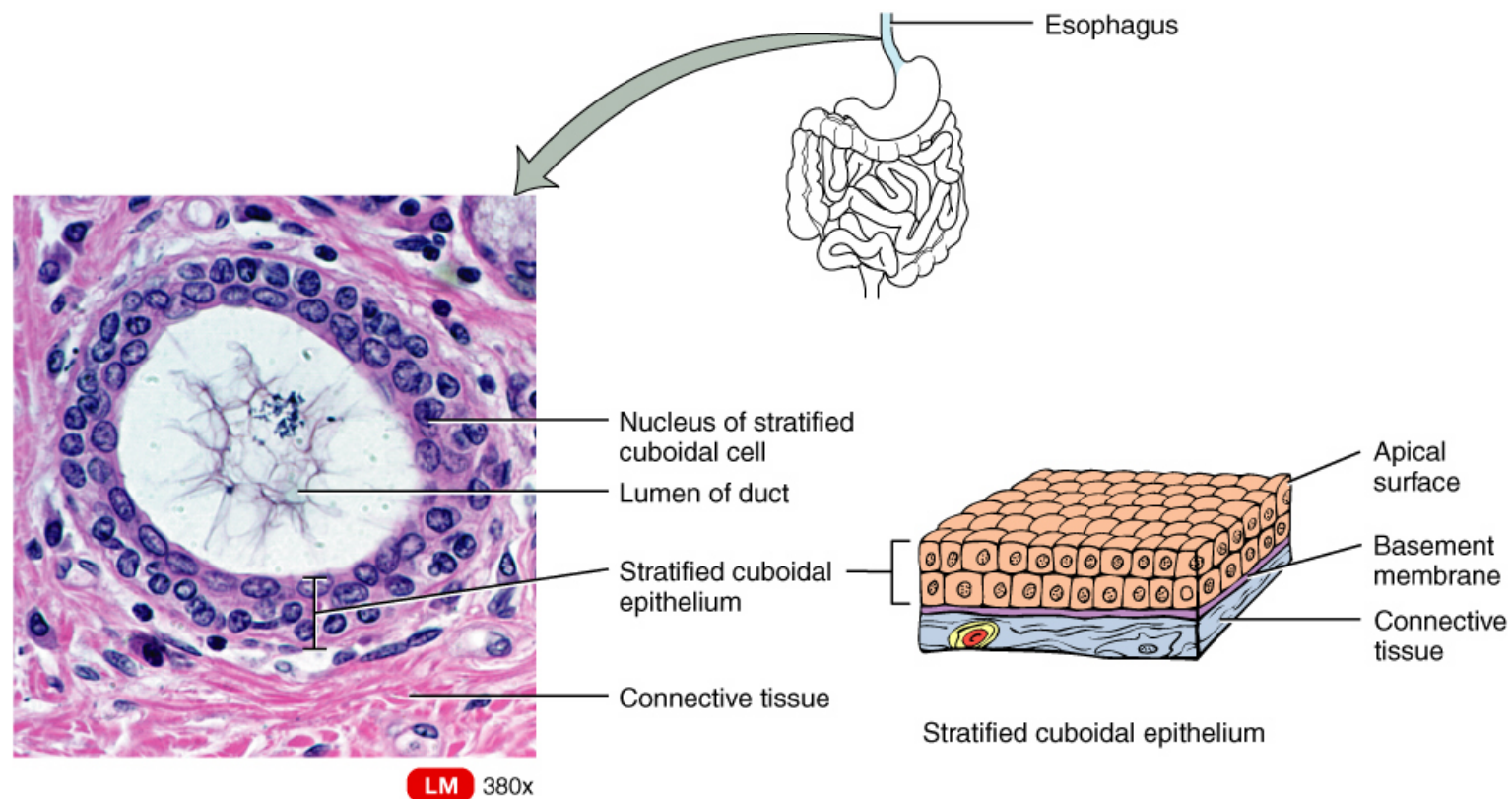
Simple Columnar Epithelium with cilia



Stratified Squamous Epithelium

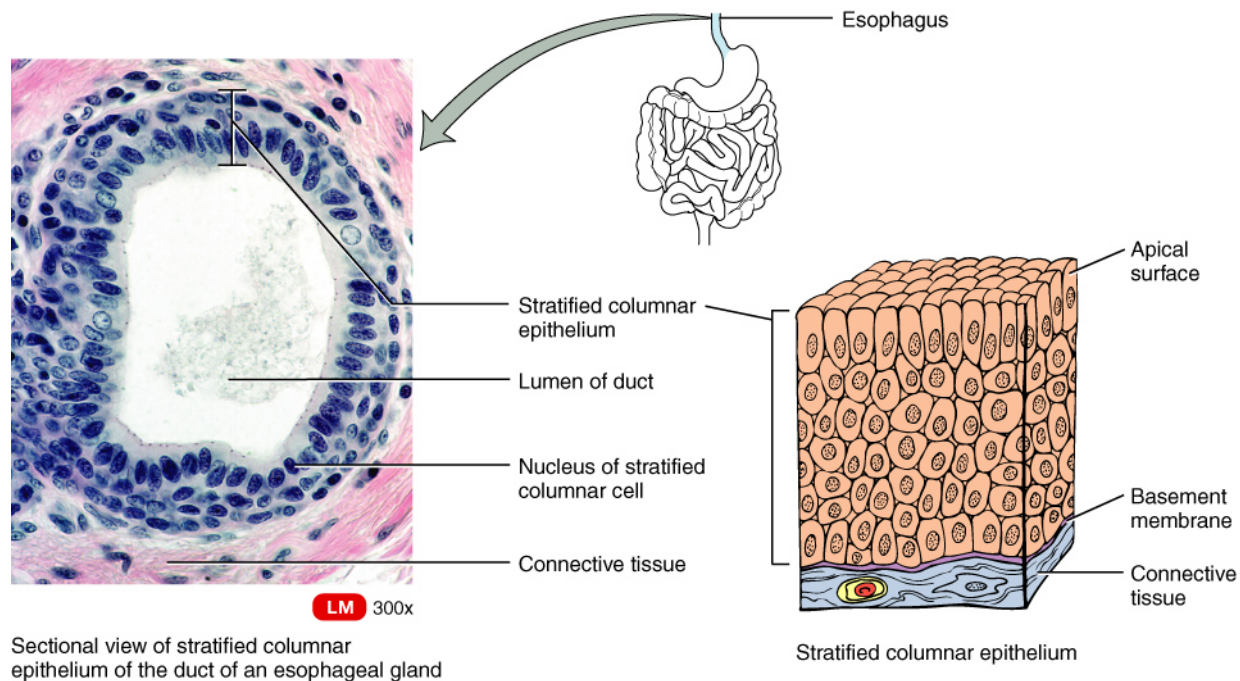


Stratified Cuboidal Epithelium



Sectional view of stratified cuboidal epithelium of the duct of an esophageal gland

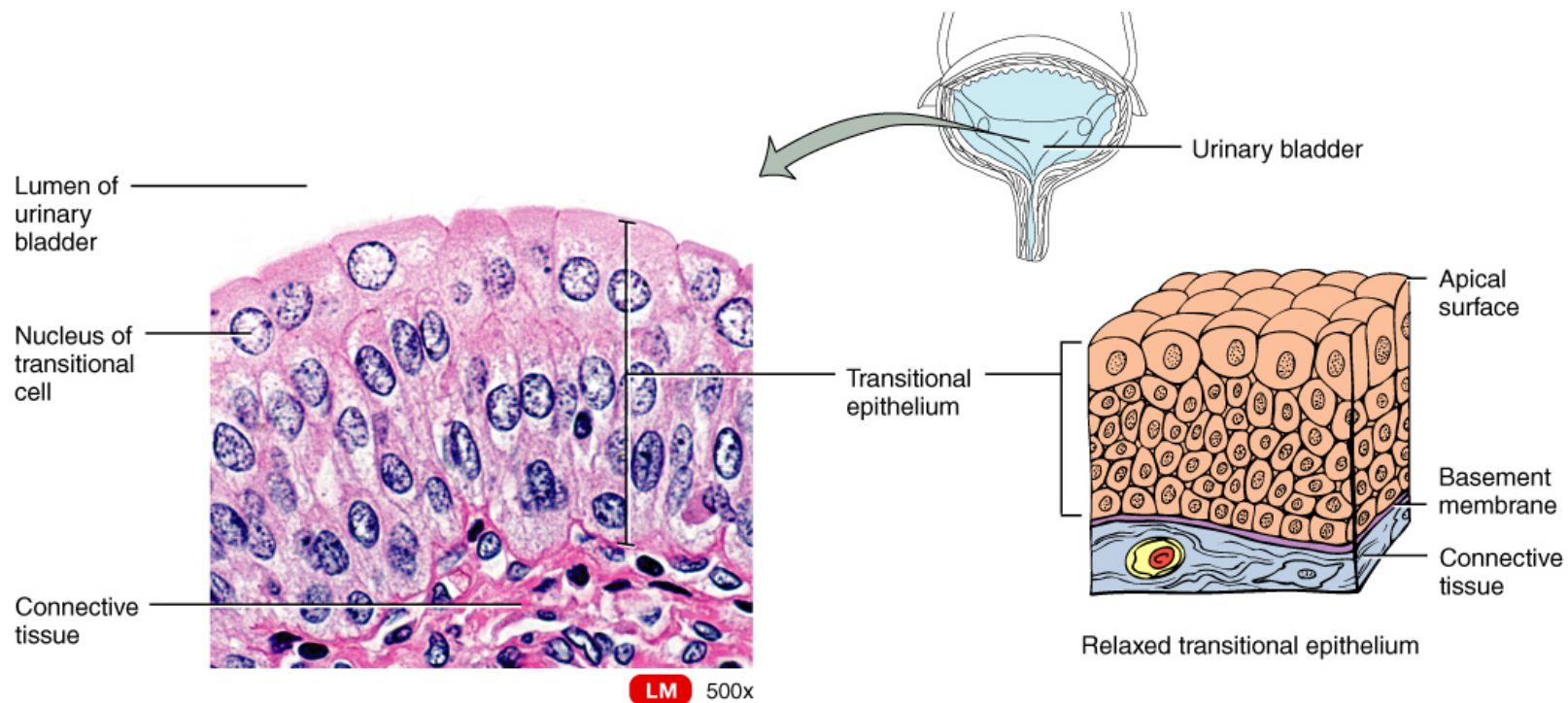
Stratified Columnar Epithelium



04.T01G

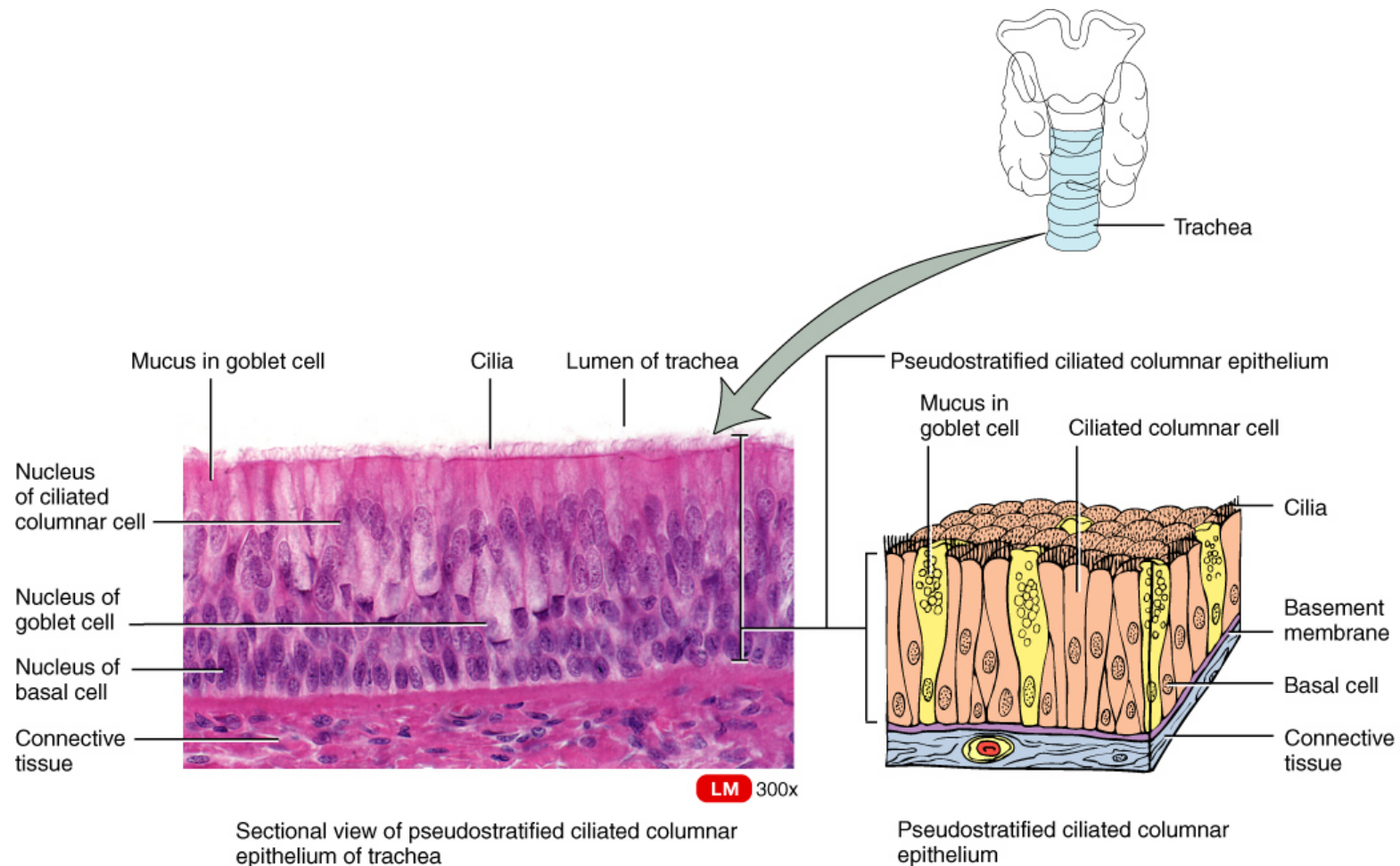
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Transitional Epithelium

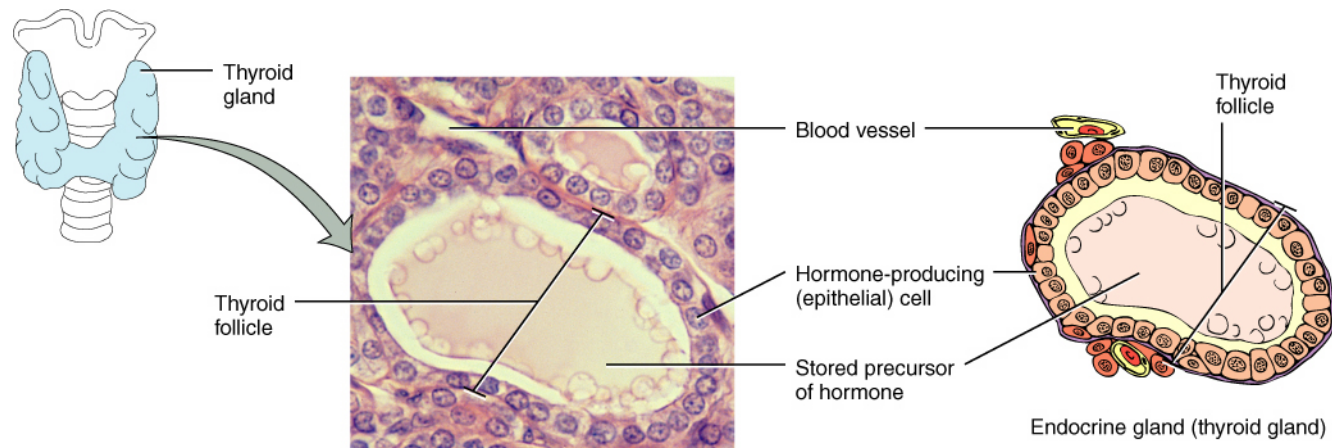


Sectional view of transitional epithelium of urinary bladder in relaxed state

Pseudostratified Columnar Epithelium



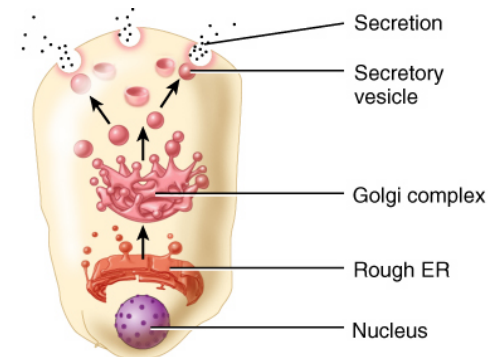
Endocrine Glands



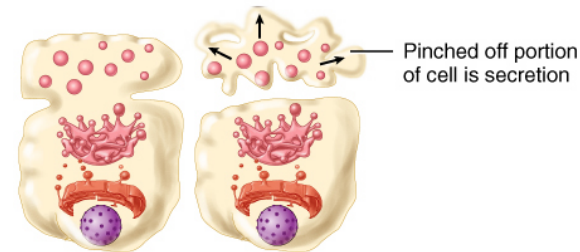
Sectional view of endocrine gland (thyroid gland)
04.T01J

Exocrine Glands

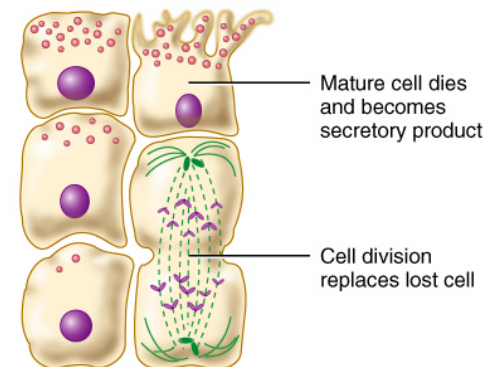
- Merocrine – chemical release – salivary glands.
- Apocrine – Pinch off portions of cells – Mammary glands
- Holocrine – slough off the whole cell – sebaceous glands.



(a) Merocrine secretion



(b) Apocrine secretion

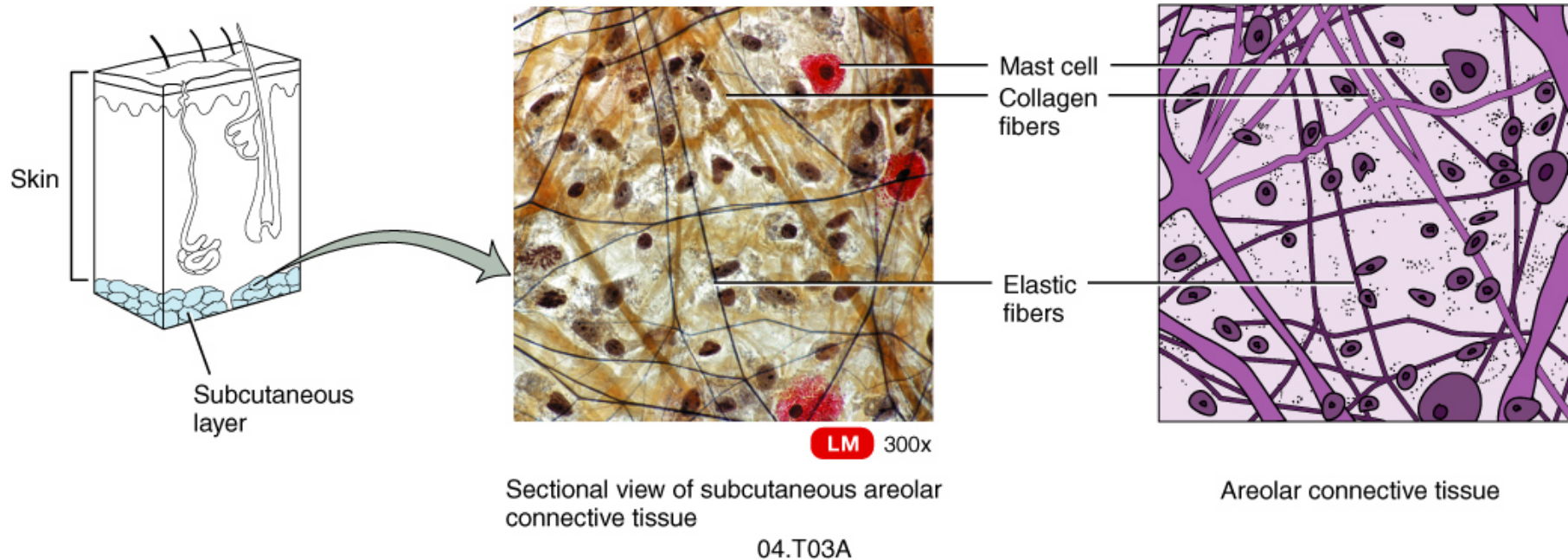


(c) Holocrine secretion

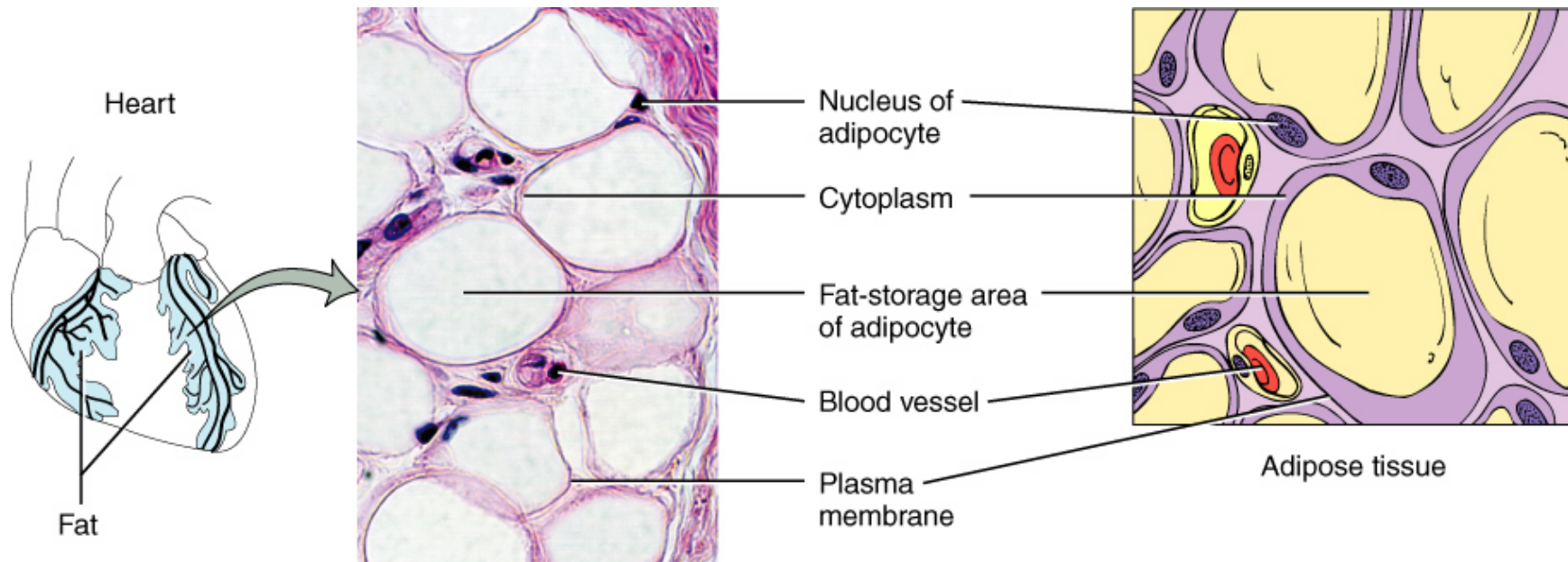
Connective Tissues

- Contain a matrix
- Some contain fibers
- Have a variety of functional cells
- Most are vascular
- Most have neural connections

Areolar Connective

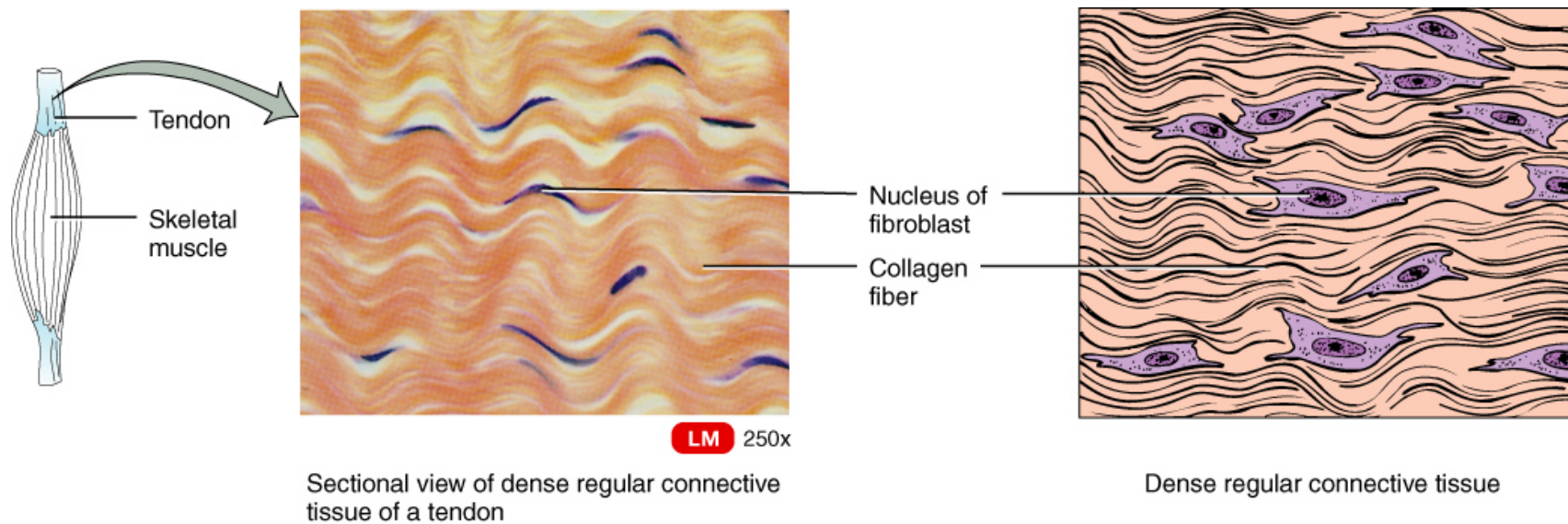


Adipose Connective



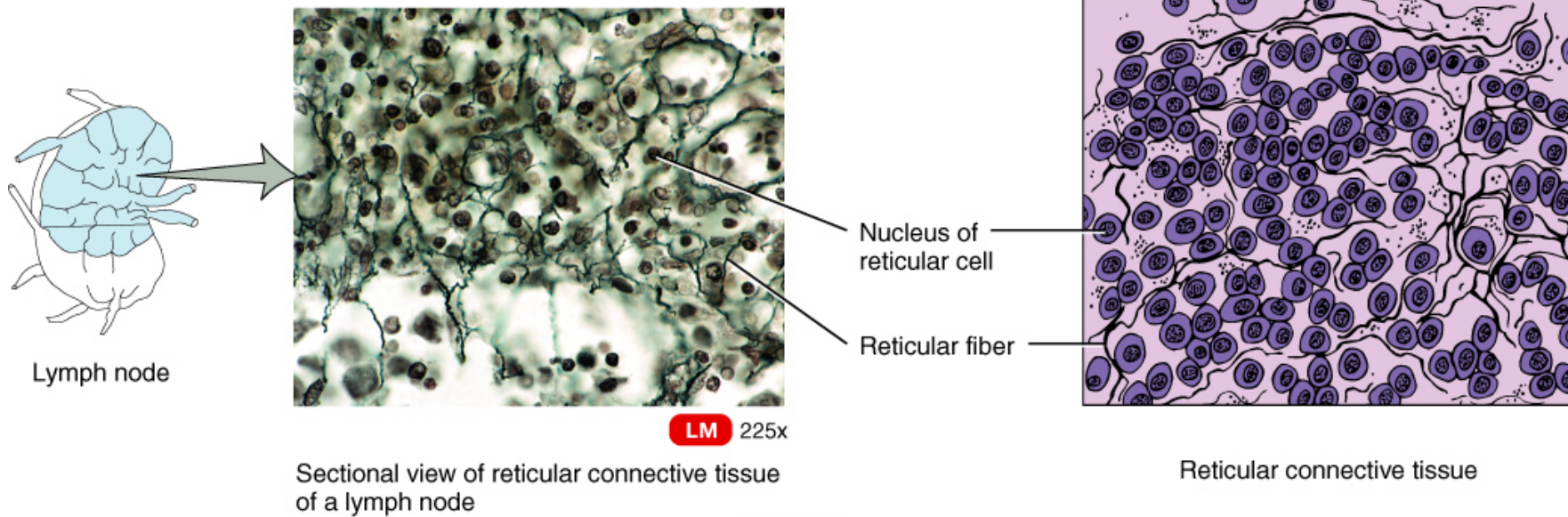
Sectional view of adipose tissue showing adipocytes of white fat

Dense Regular Connective



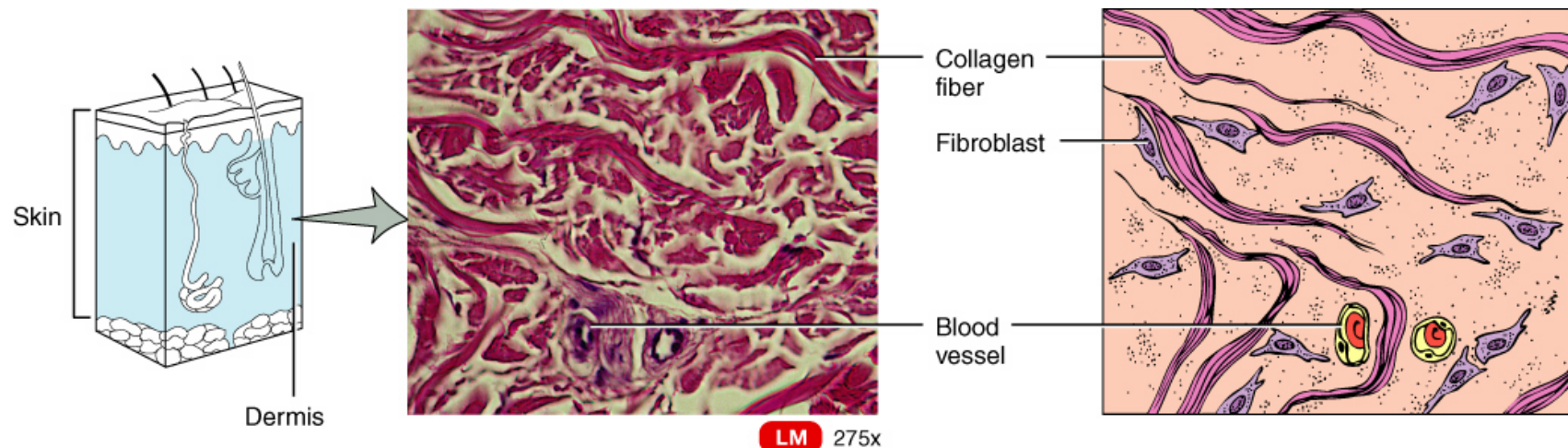
04.T03D

Reticular Connective



04.T03C

Dense Irregular Connective

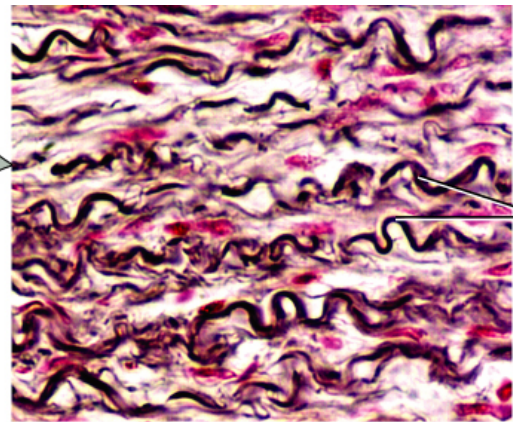
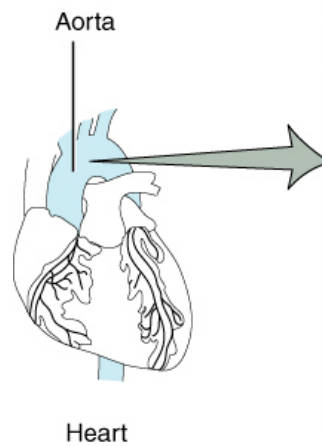


Sectional view of dense irregular connective tissue of reticular region of dermis

Dense irregular connective tissue

04.T03E

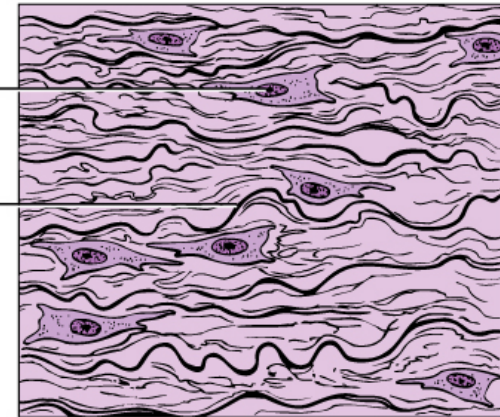
Elastic Connective



LM 435x

Sectional view of elastic connective tissue of aorta

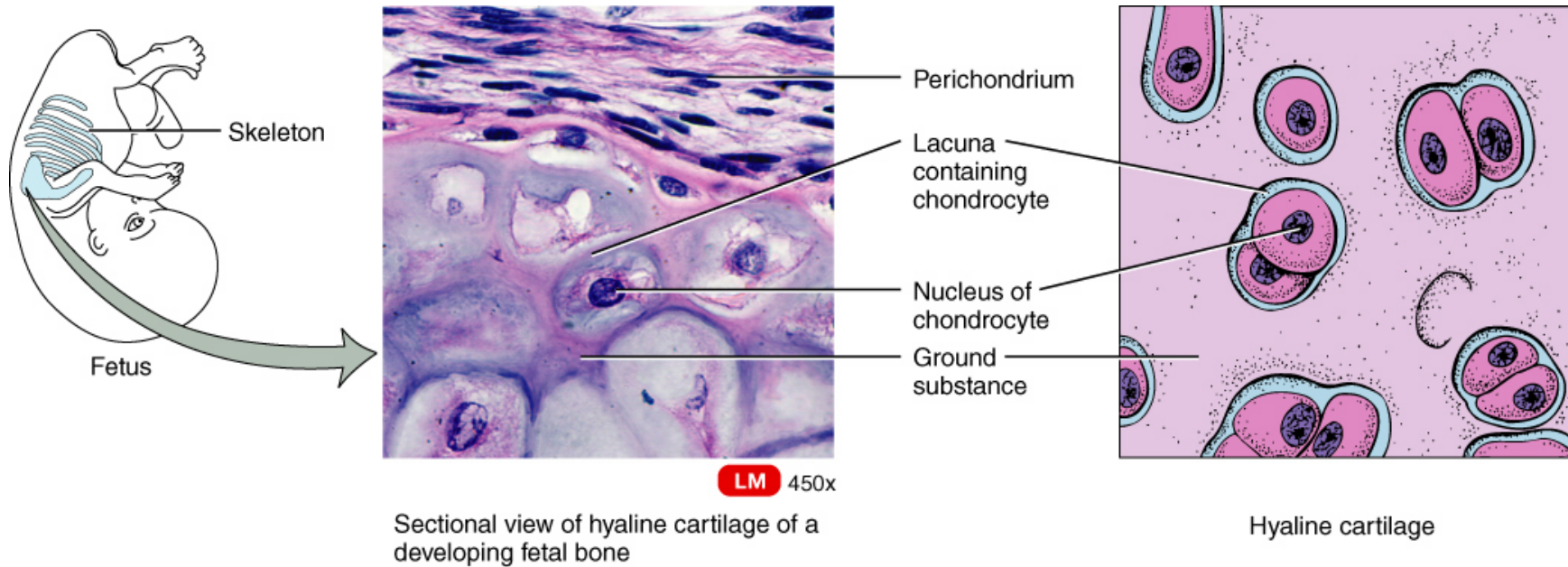
Nucleus of fibroblast
Elastic lamellae (sheets of elastic material)



Elastic connective tissue

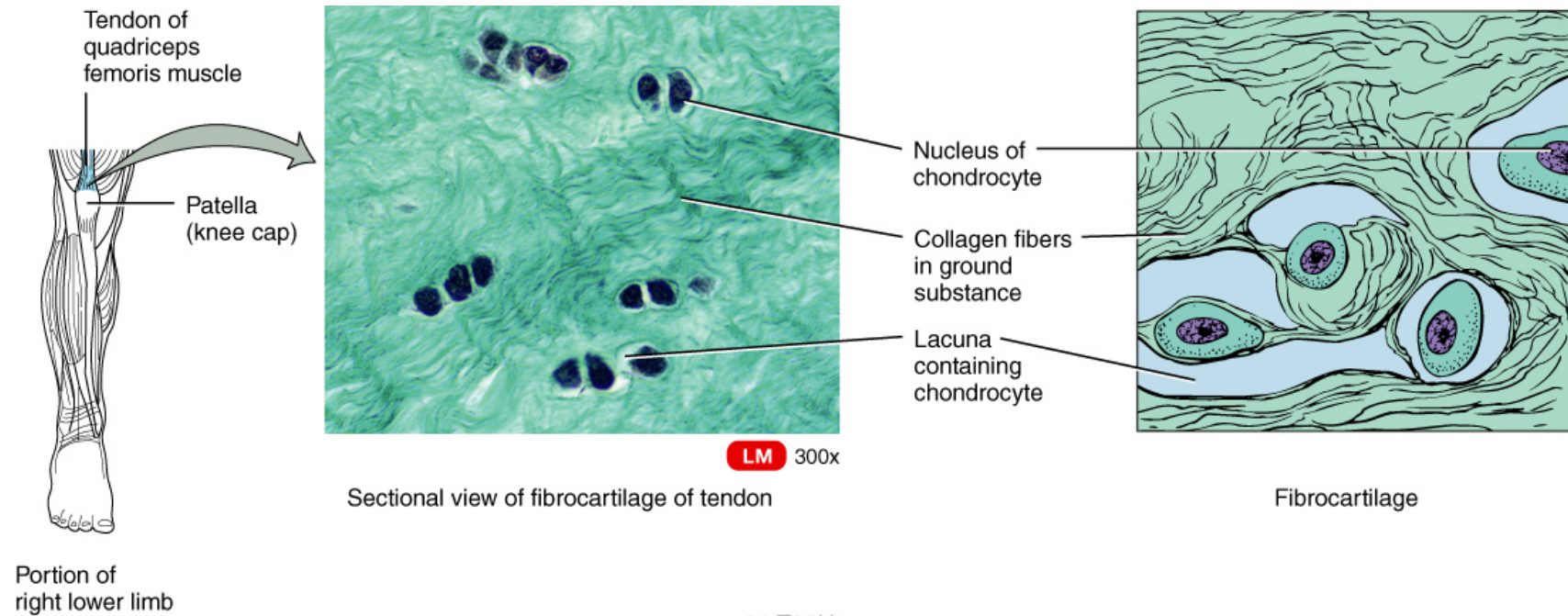
04.T03F

Hyaline Cartilage



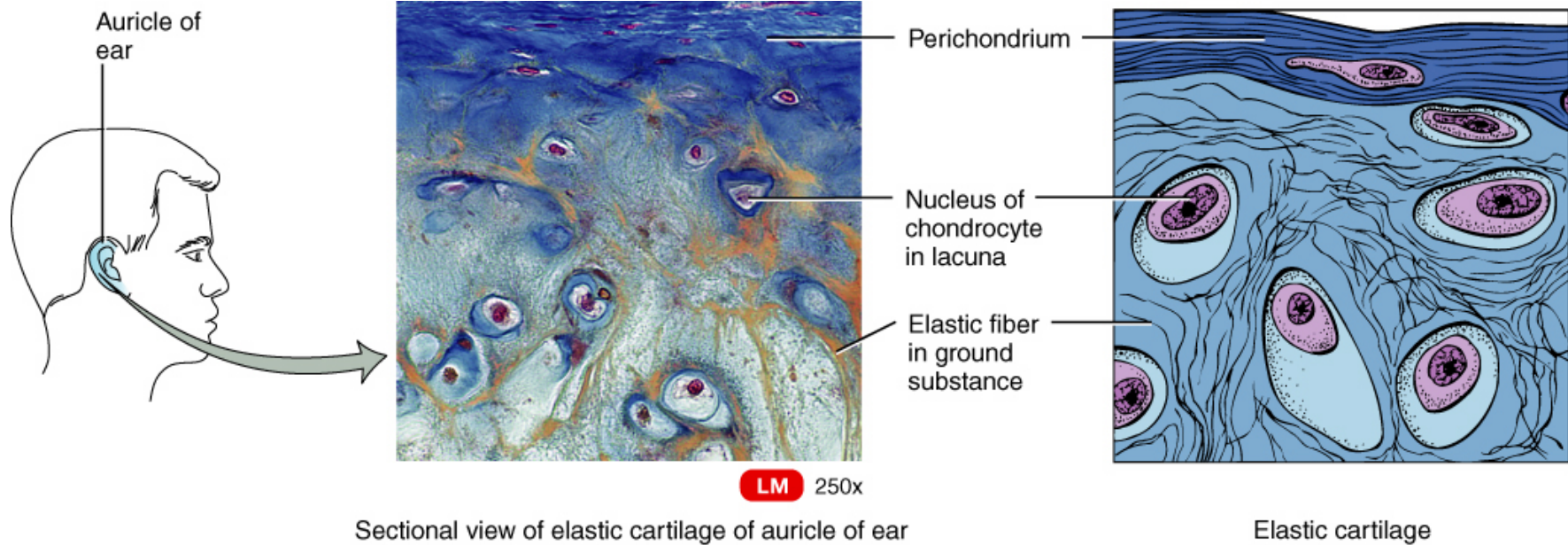
04.T03G

Fibrocartilage



04.T03H

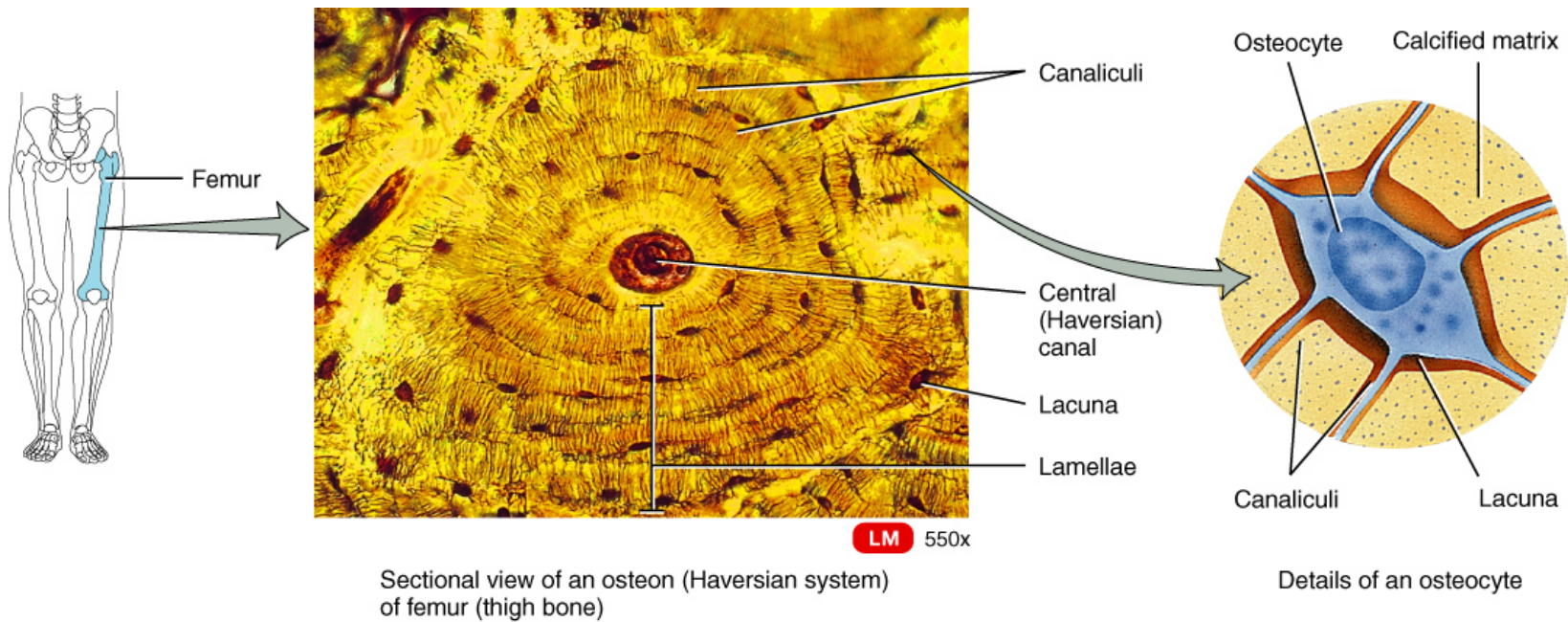
Elastic Cartilage



04.T03I

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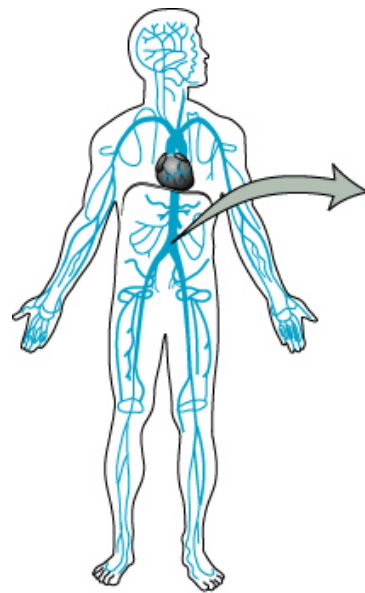
Bone



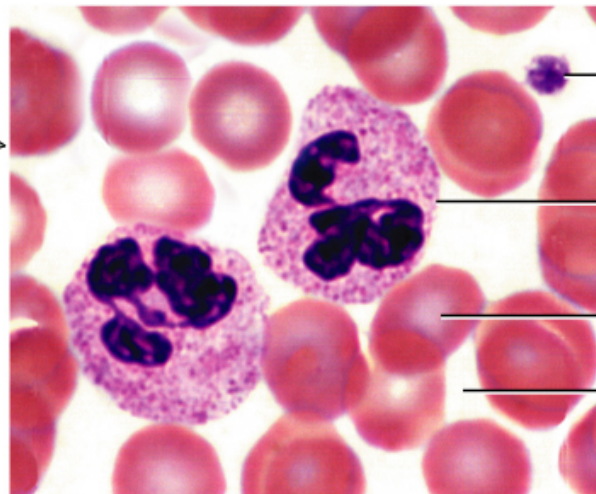
04.T03J

Blood

Erythrocytes, Leukocytes & Thrombocytes



Blood in blood vessels



Blood smear

LM 1230x

04.T03K

Platelet

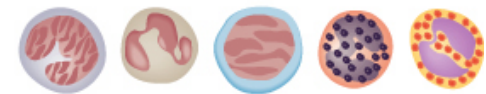
White blood cell
(leukocyte)

Red blood cell
(erythrocyte)

Blood plasma



Red blood cells



White blood cells



Platelets

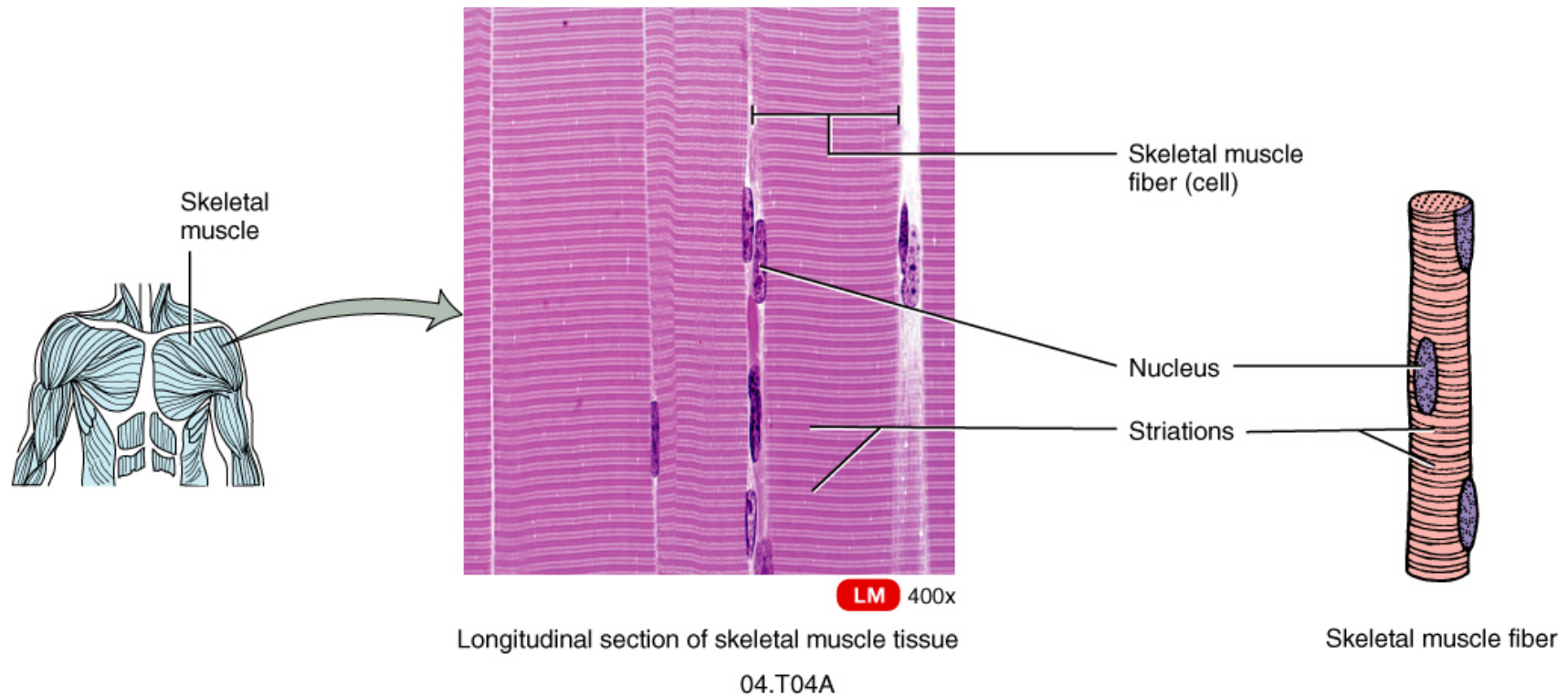
Membranes

- Mucous
- Serous
- Synovial

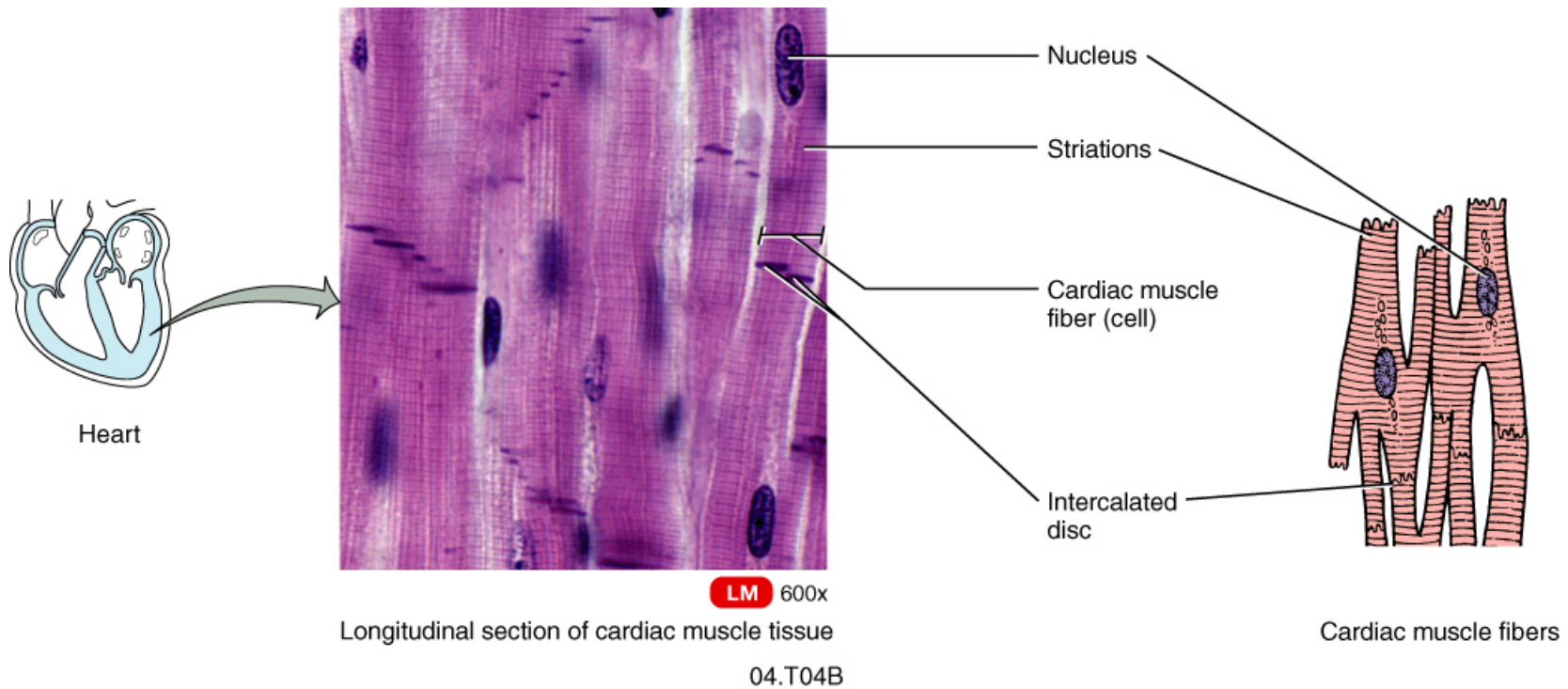
Muscles Tissue Types

- Skeletal (striated)
- Cardiac
- Smooth

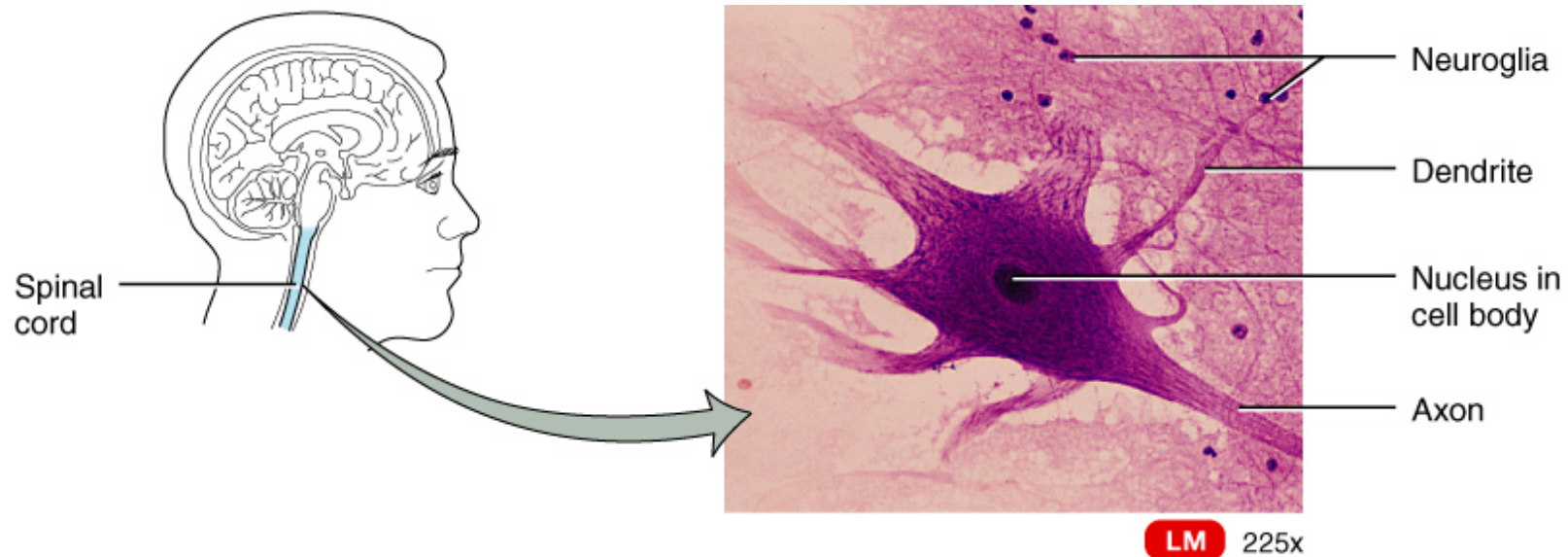
Striated Muscle



Cardiac Muscle



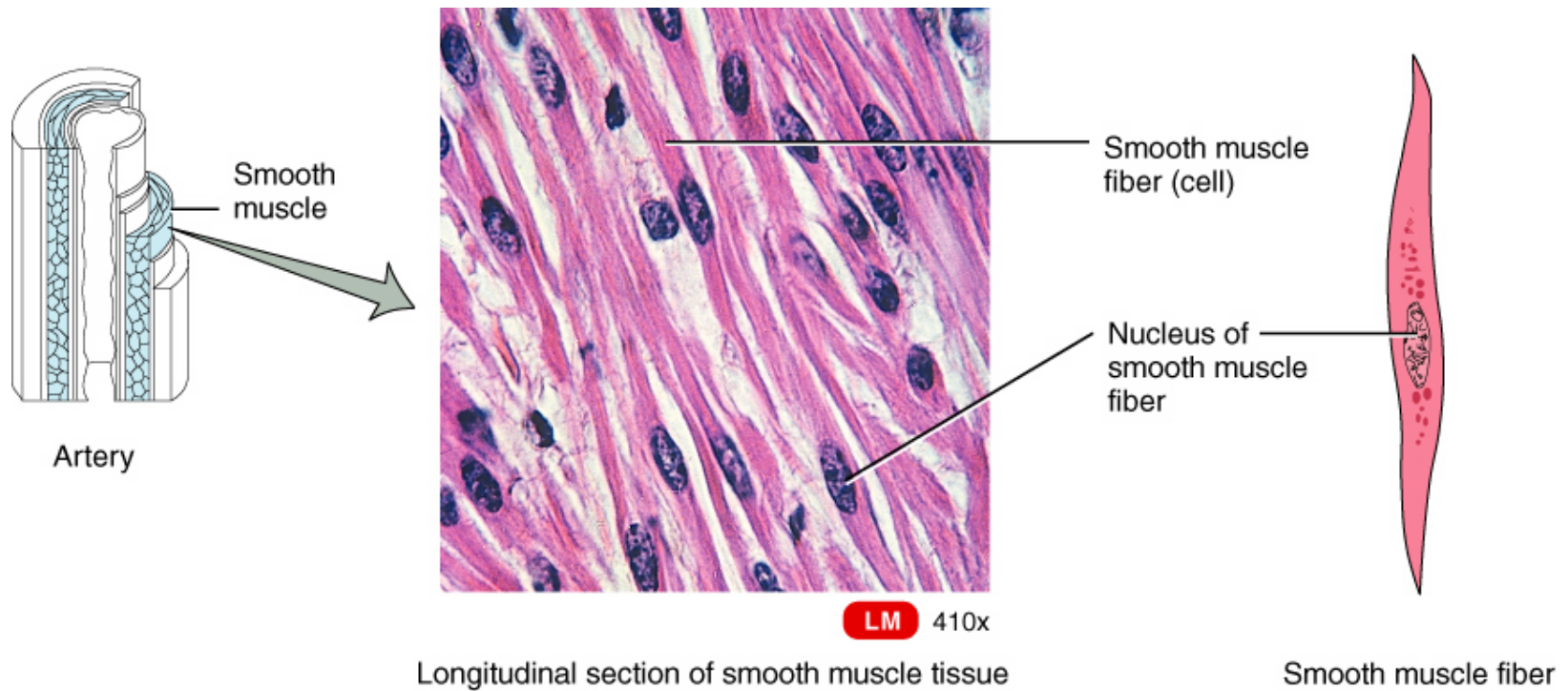
Nervous Tissue



Neuron of spinal cord

04.T05

Smooth Muscle



04.T04C

Terms to Know

- Autoimmune disease
- Lupus
- Sjogren's syndrome
- Atrophy
- Hypertrophy
- Tissue rejection
- Xenotransplantation
- Adhesions