

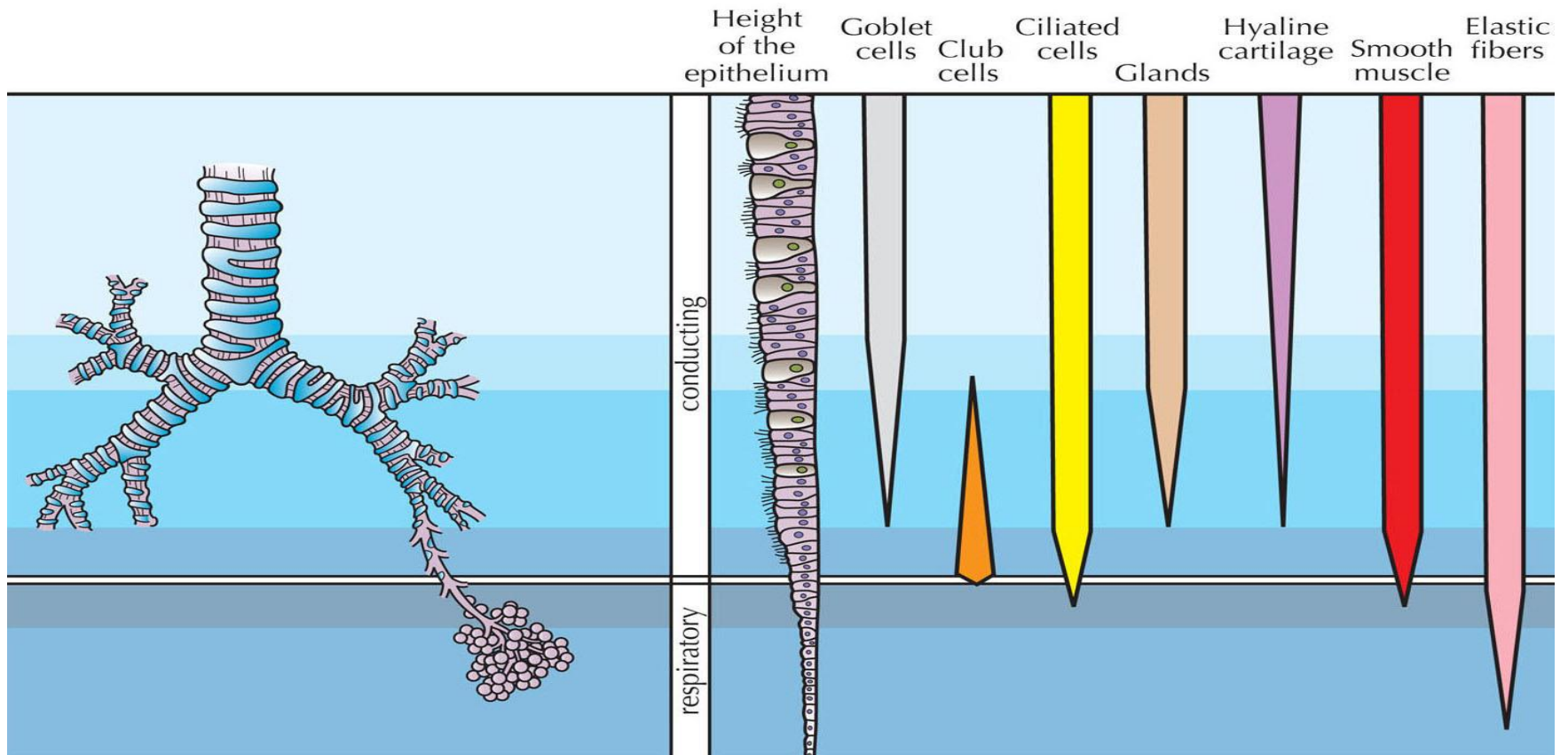
# **Respiratory system**

## **Lab**

# Respiratory system

Conducting portions

respiratory portions



# Trachea

**The wall of the trachea consists of :**

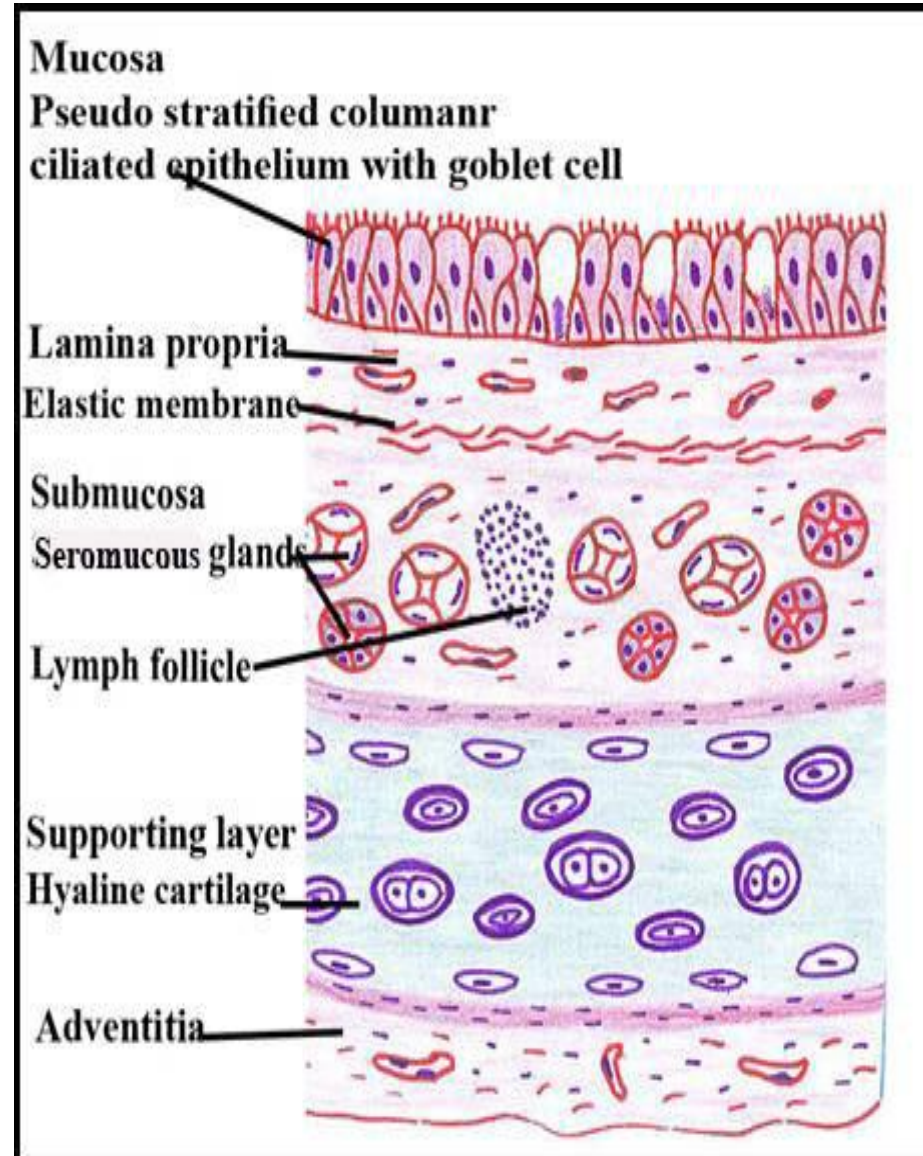
## 1-Mucosa:

- Pseudostratified columnar ciliated epithelium with goblet cells
- Lamina propria that contains loose C.T. rich in elastic fibers, blood vessels and lymphatic nodules.
- the elastic lamina.

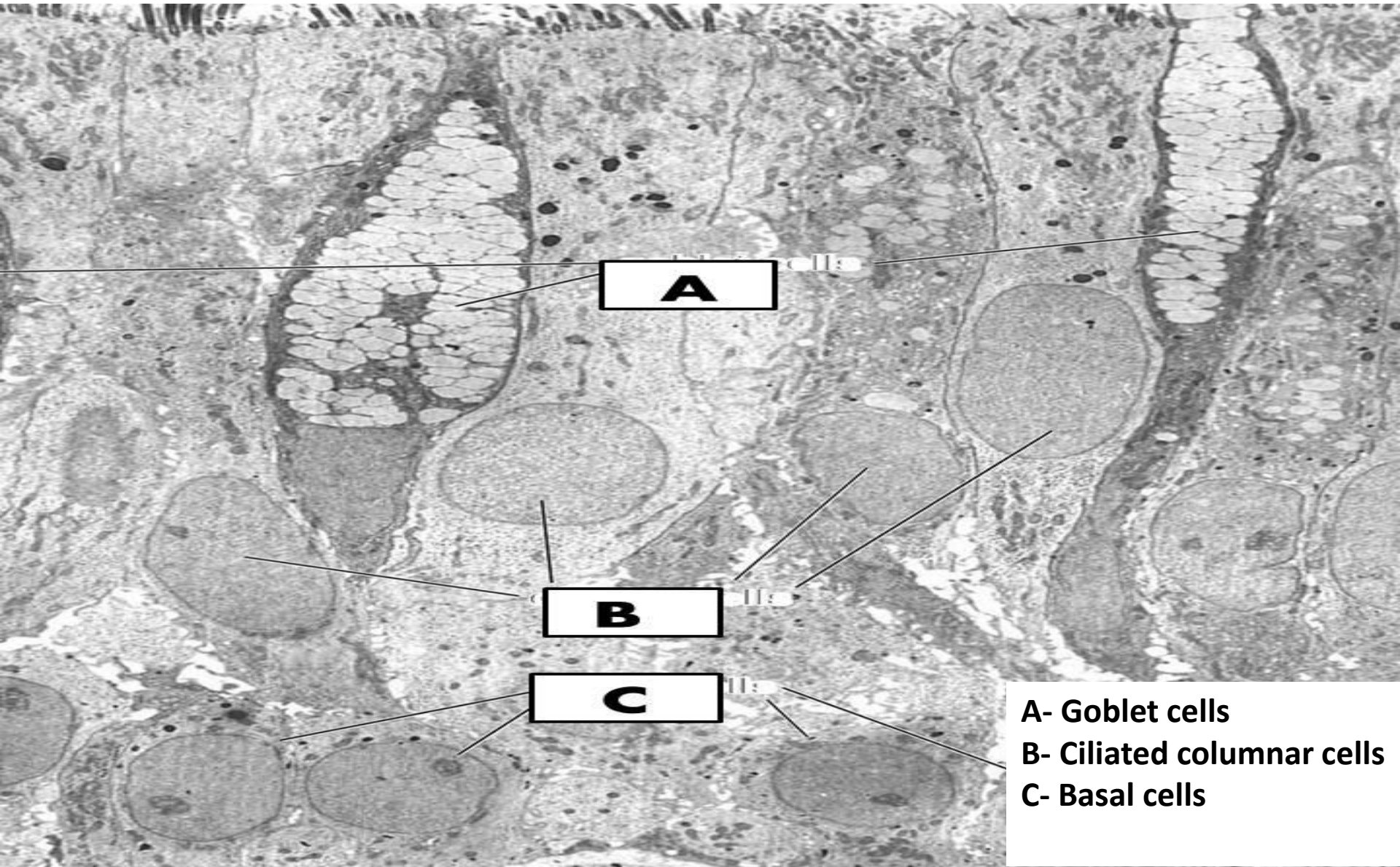
**2-Submucosa:** is formed of loose C.T. containing tracheal mucous glands and lymphatic nodules.

**3-Supporting layer:** is formed of C-shaped plates of hyaline cartilage attached posteriorly by smooth muscle and connective tissue.

**4-Adventitia:** A thin layer of loose C.T.



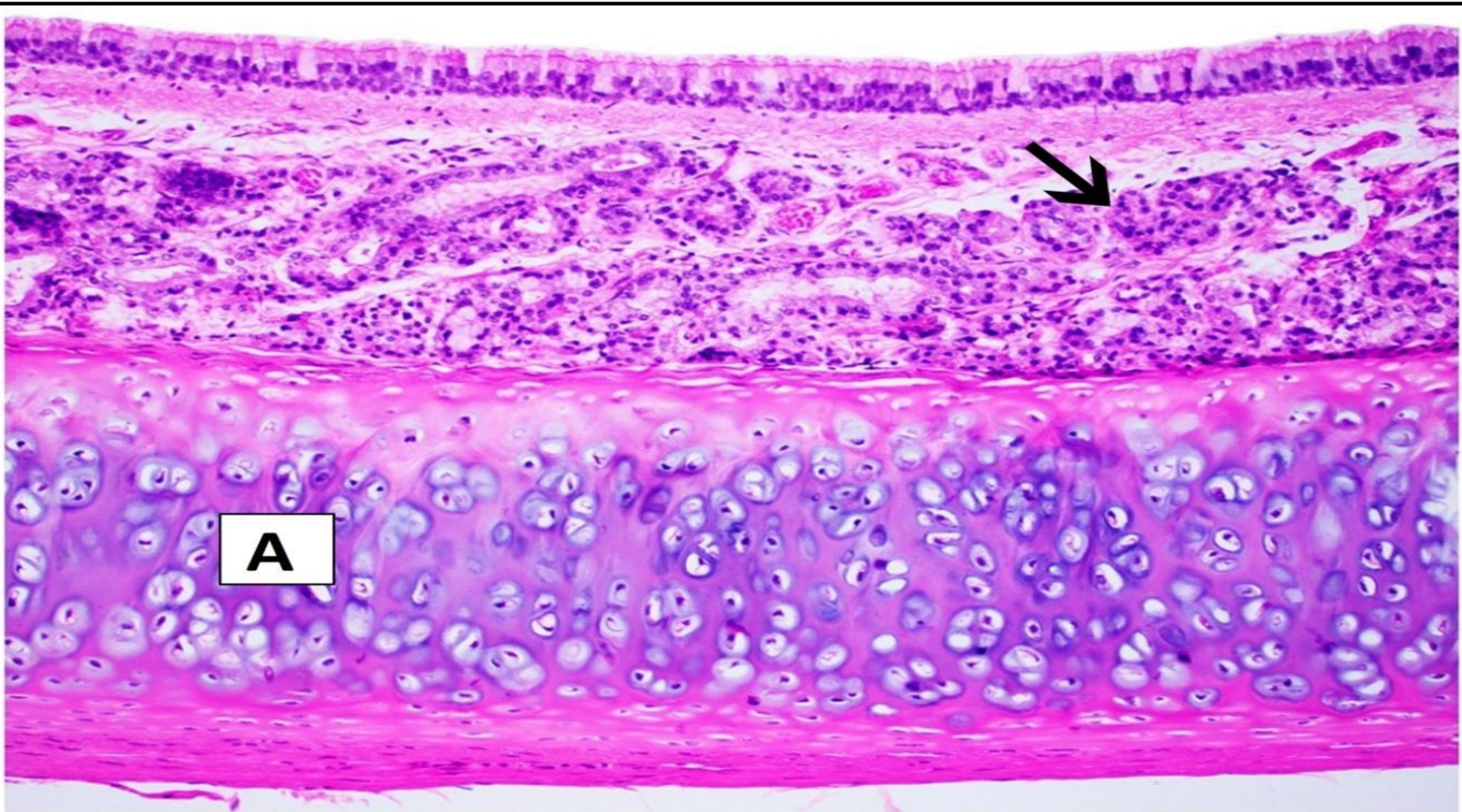
# Respiratory epithelium



- A- Goblet cells
- B- Ciliated columnar cells
- C- Basal cells

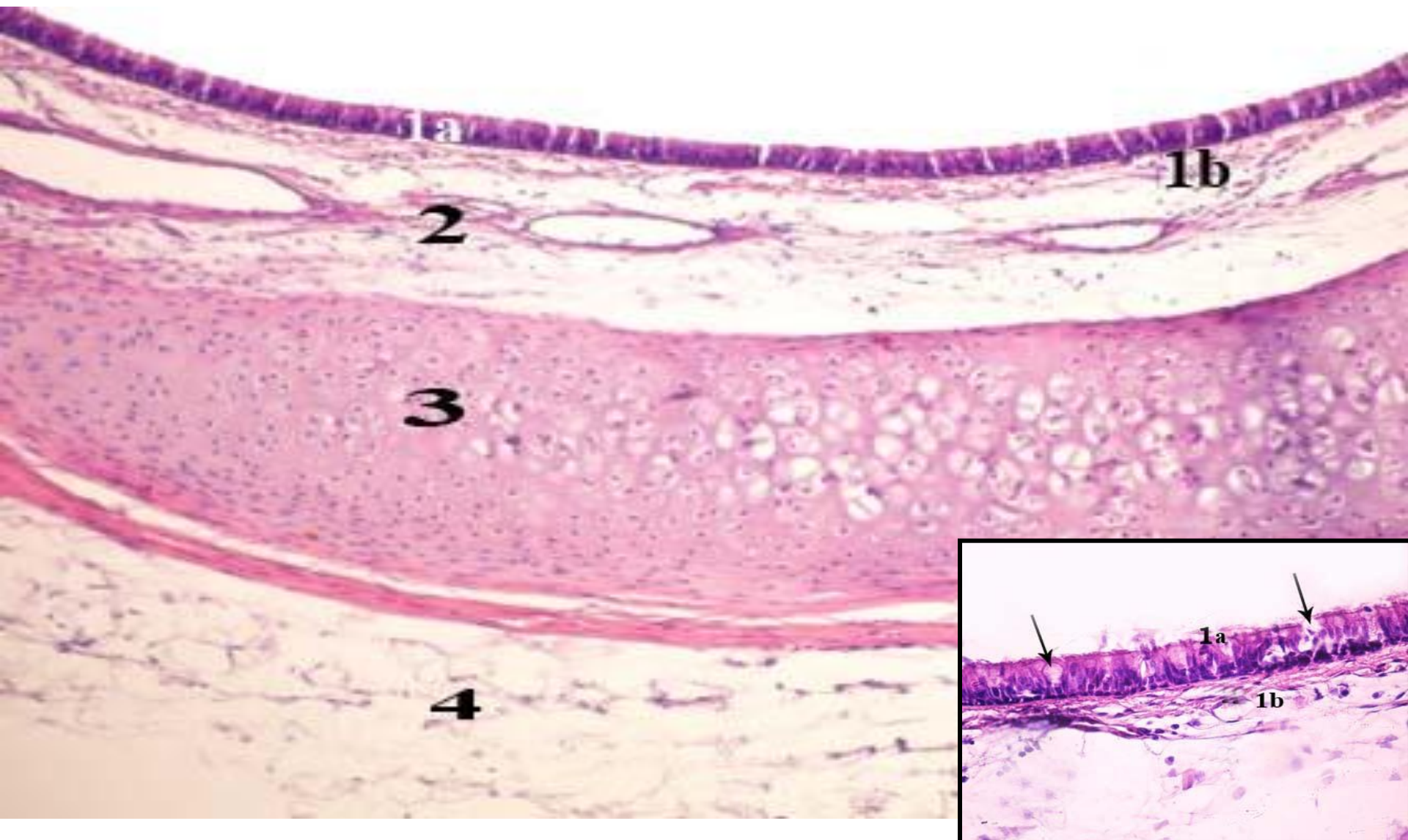


# Trachea





# Trachea



# Lung

## I- The conducting portion consists of:

### Intrapulmonary bronchi:

- Mucosa*: 1-Respiratory epithelium. 2-Lamina propria.
- Muscle layer*: Completely surrounds the lumen.
- Supporting layer* (►): irregular plates of hyaline cartilage separated by mucous glands and lymphatic nodules.

### Bronchioles (1)

- *Mucosa*: 1-Epithelium: simple columnar epithelium partially ciliated. 2-Lamina propria: thin.
- Muscle layer*: Thin but prominent.
- Adventitia*

No goblet cells, no cartilage, no glands, no lymph follicles

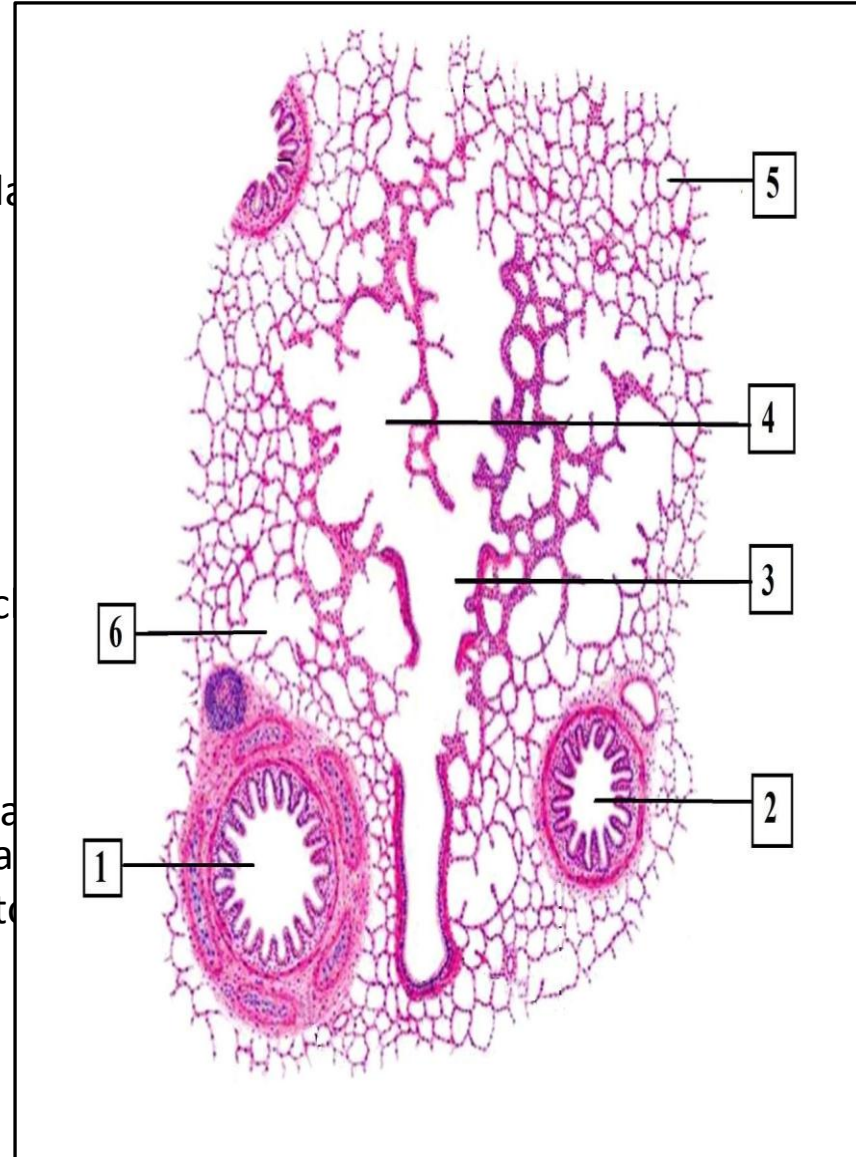
## II- The respiratory portion consists of:

A- Respiratory bronchioles (2) are lined by simple low columnar epithelium. They have alveoli in their walls.

B- Alveolar ducts (3) are formed by several alveoli situated adjacent to each other with knobs between adjacent alveoli.

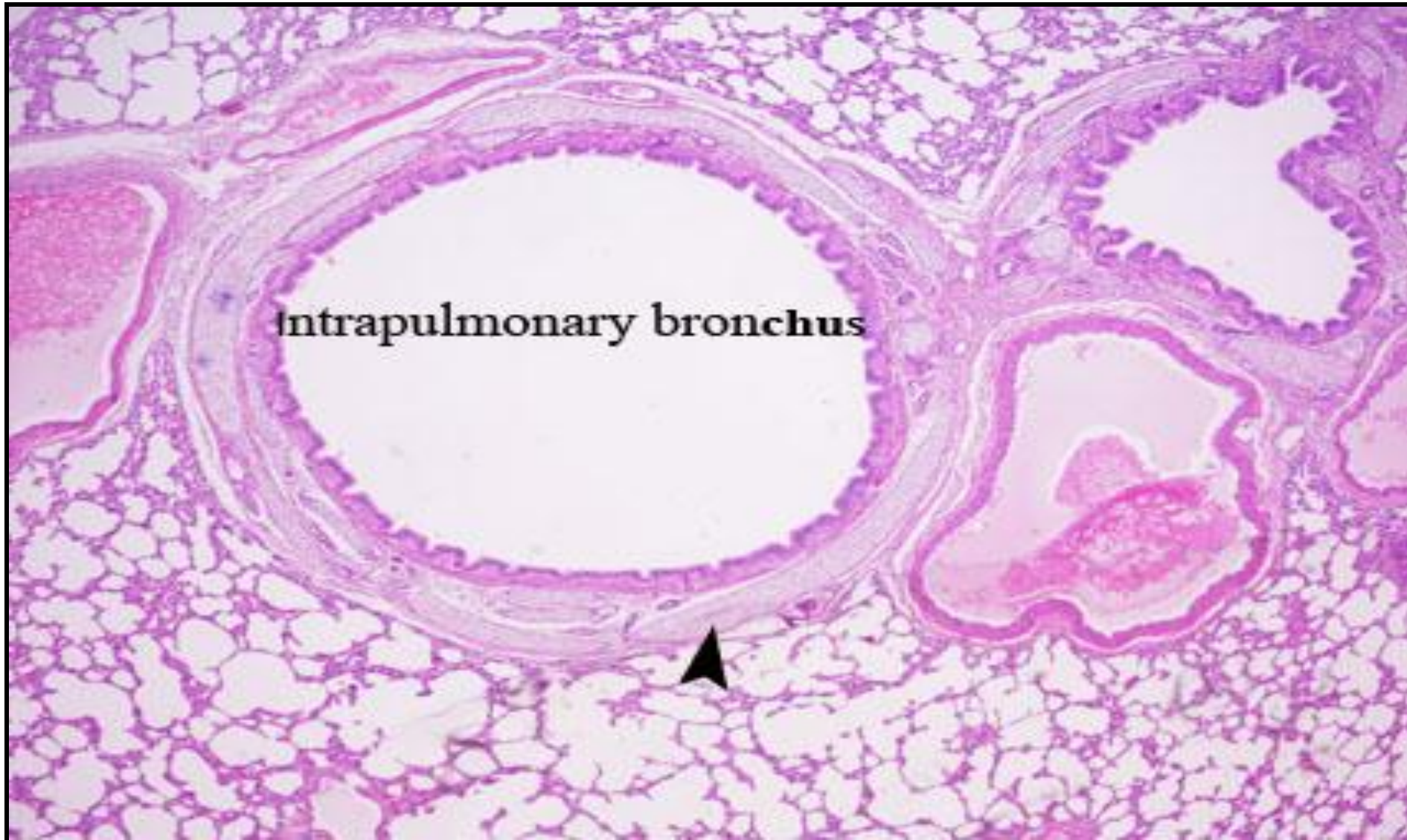
C- Alveolar sacs (4) are clusters of alveoli that open into an alveolar duct.

D- Alveoli (5) form the parenchyma of the lung.



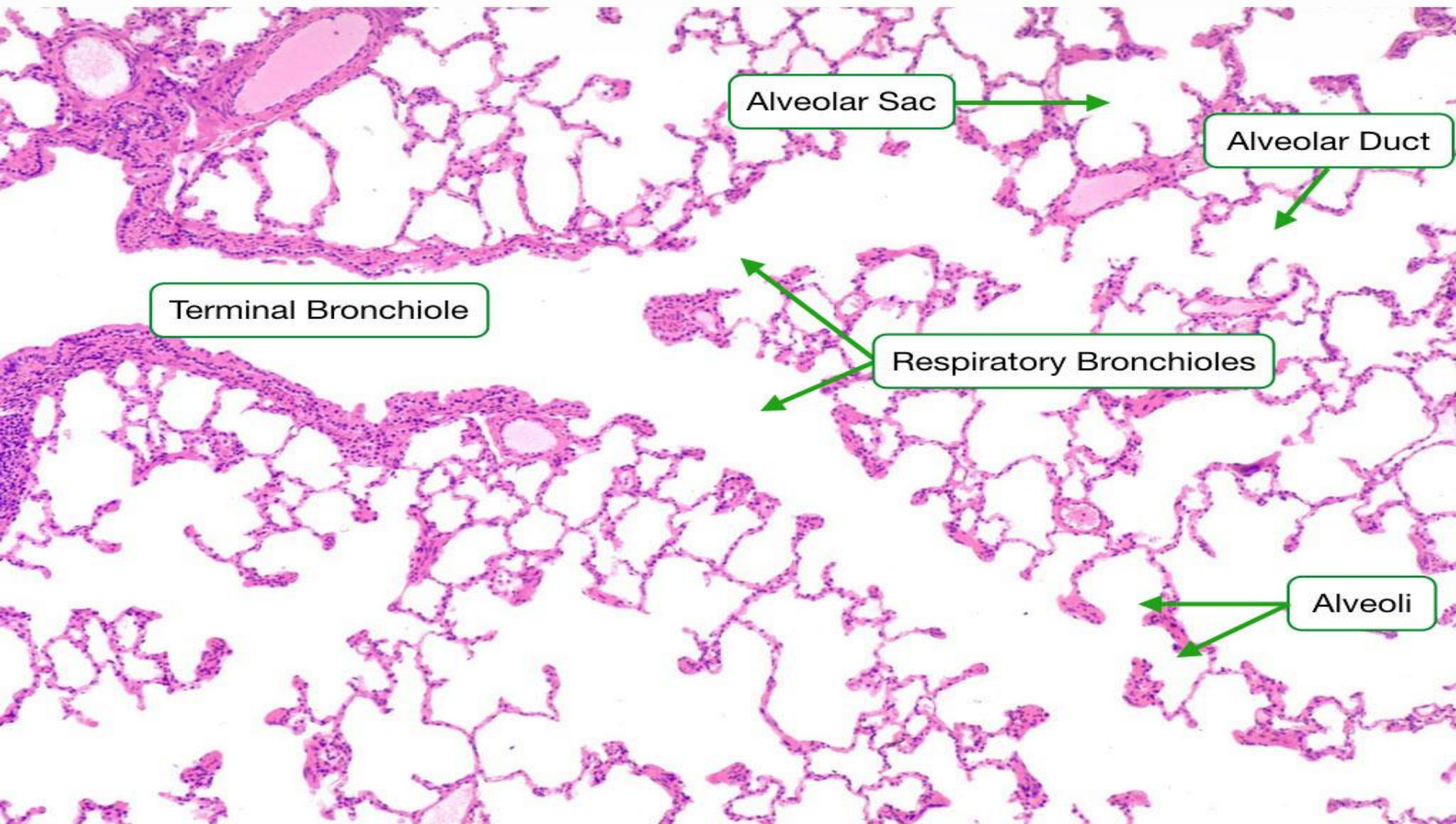


# Lung



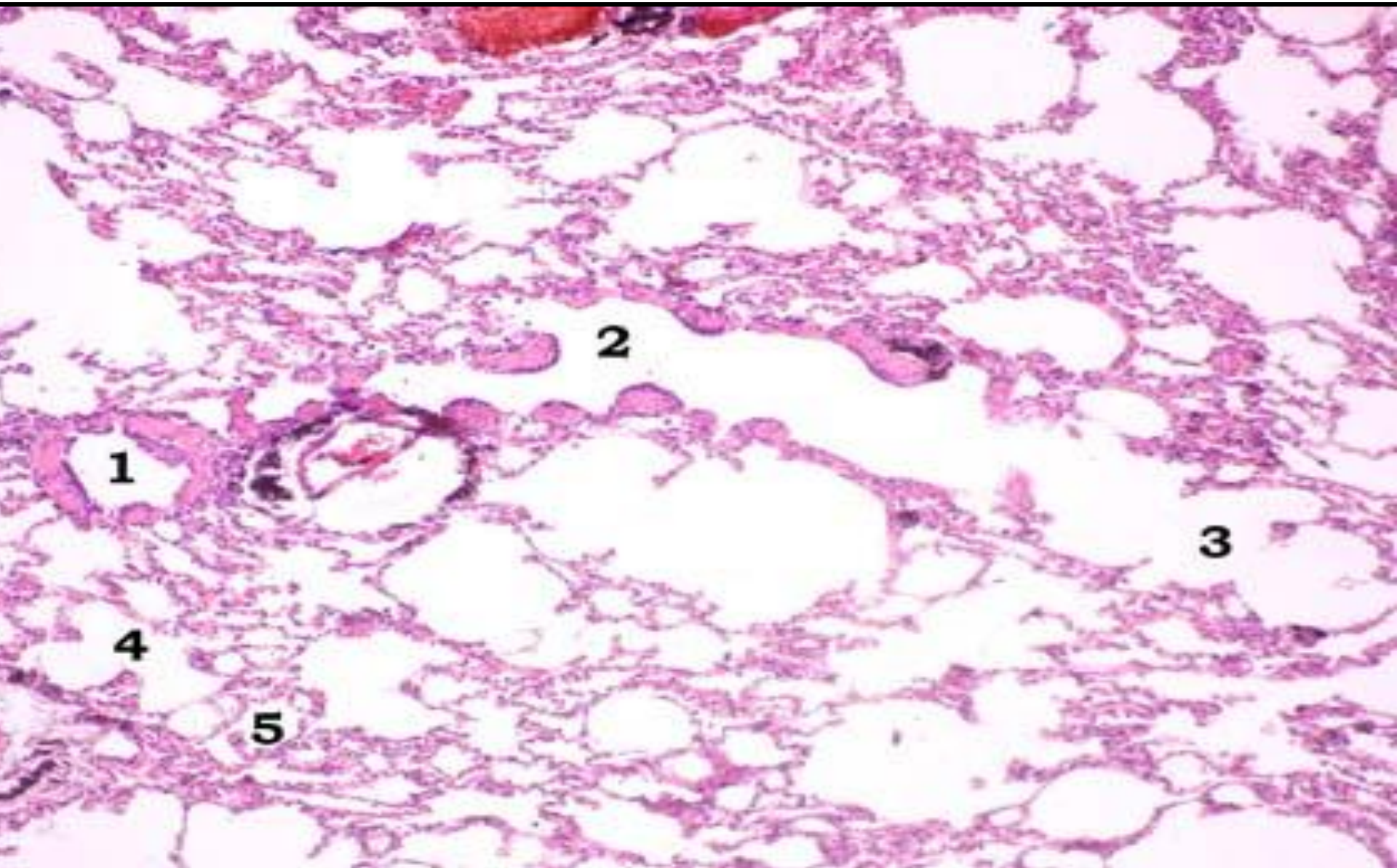


# Lung

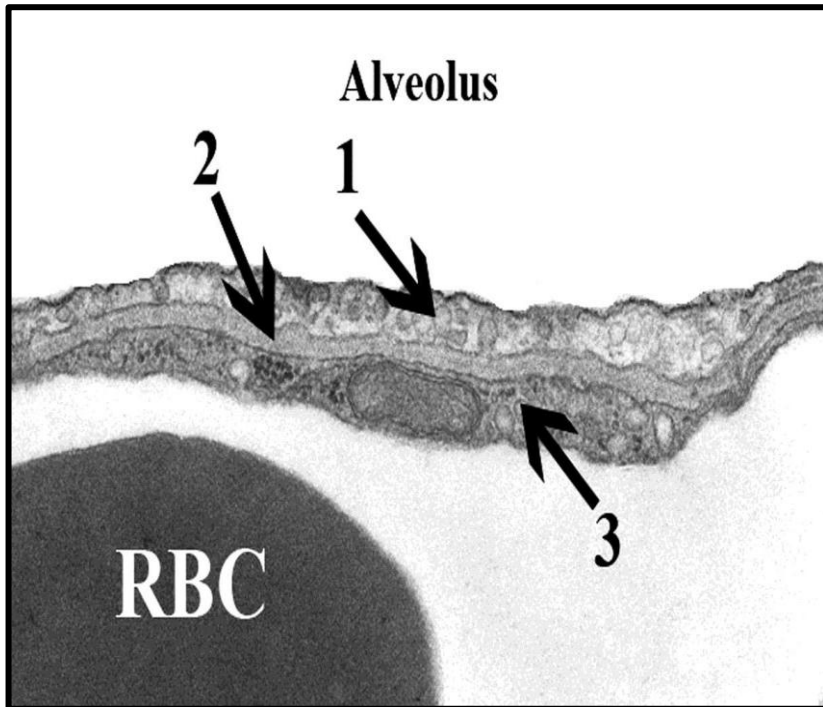




# Lung



# Type I pneumocyte



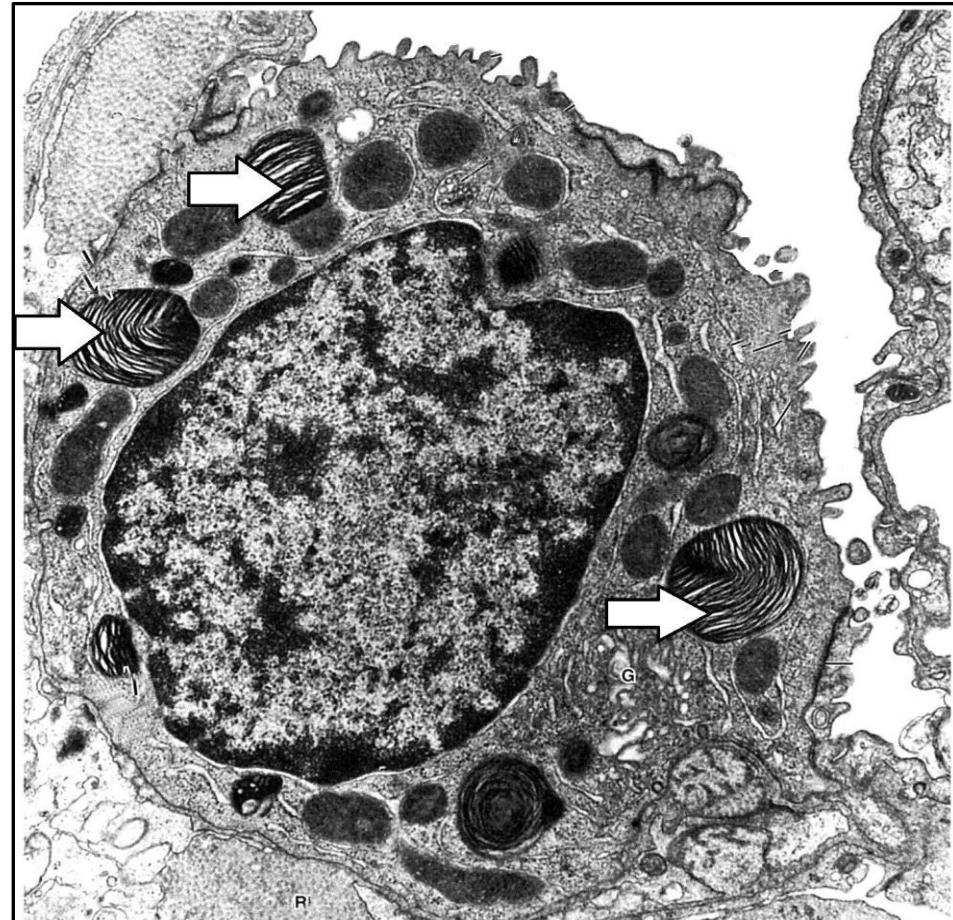
**Air-blood barrier:** The surfactant layer on the alveolar surface

1- Type I pneumocyte

Fused basal lamina

3- the cytoplasm of endothelium

# Type II pneumocyte



Arrows: **lamellar bodies** secrete lung surfactant





A photograph of a white card with the words "Thank you" written in purple cursive calligraphy. The card is placed on a light grey marble surface. To the left of the card is a bouquet of small purple flowers with green foliage. To the right of the card is a black and white polka-dot pen. In the bottom right corner, there is a small gift box wrapped in white paper with a red and white striped ribbon. A loose loop of the ribbon is visible above the gift box.

Thank  
you