

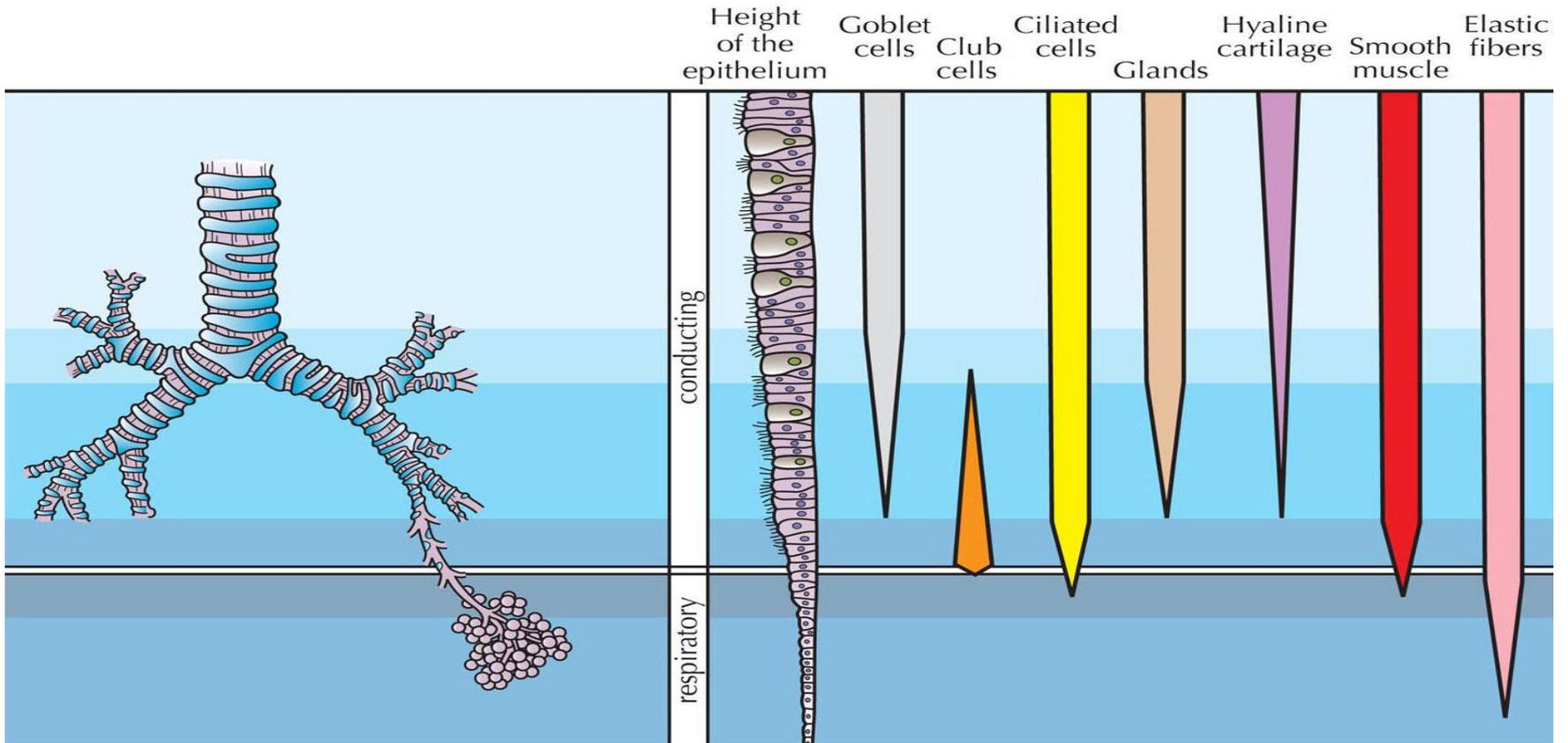
Respiratory system

Lab

Respiratory system

Conducting portions

respiratory portions



Trachea

The wall of the trachea consists of :

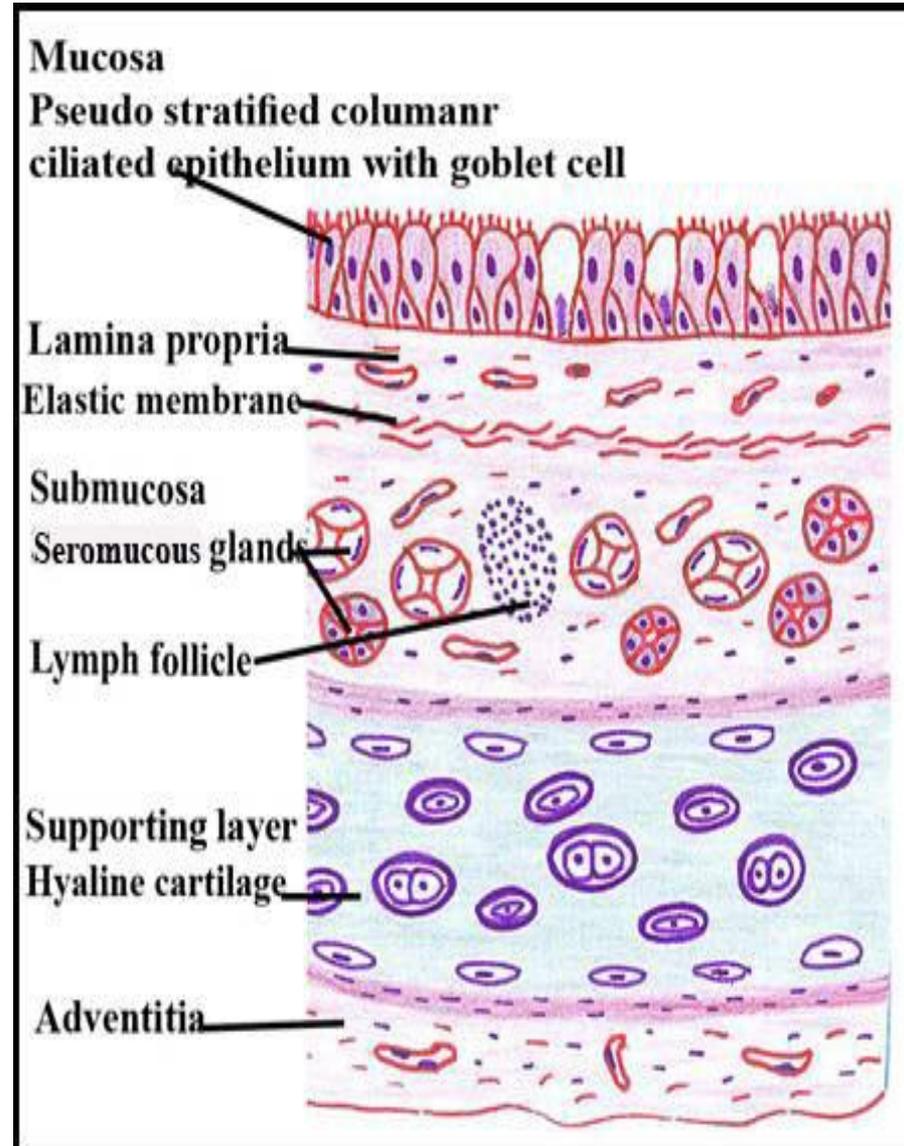
1-Mucosa:

- 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.

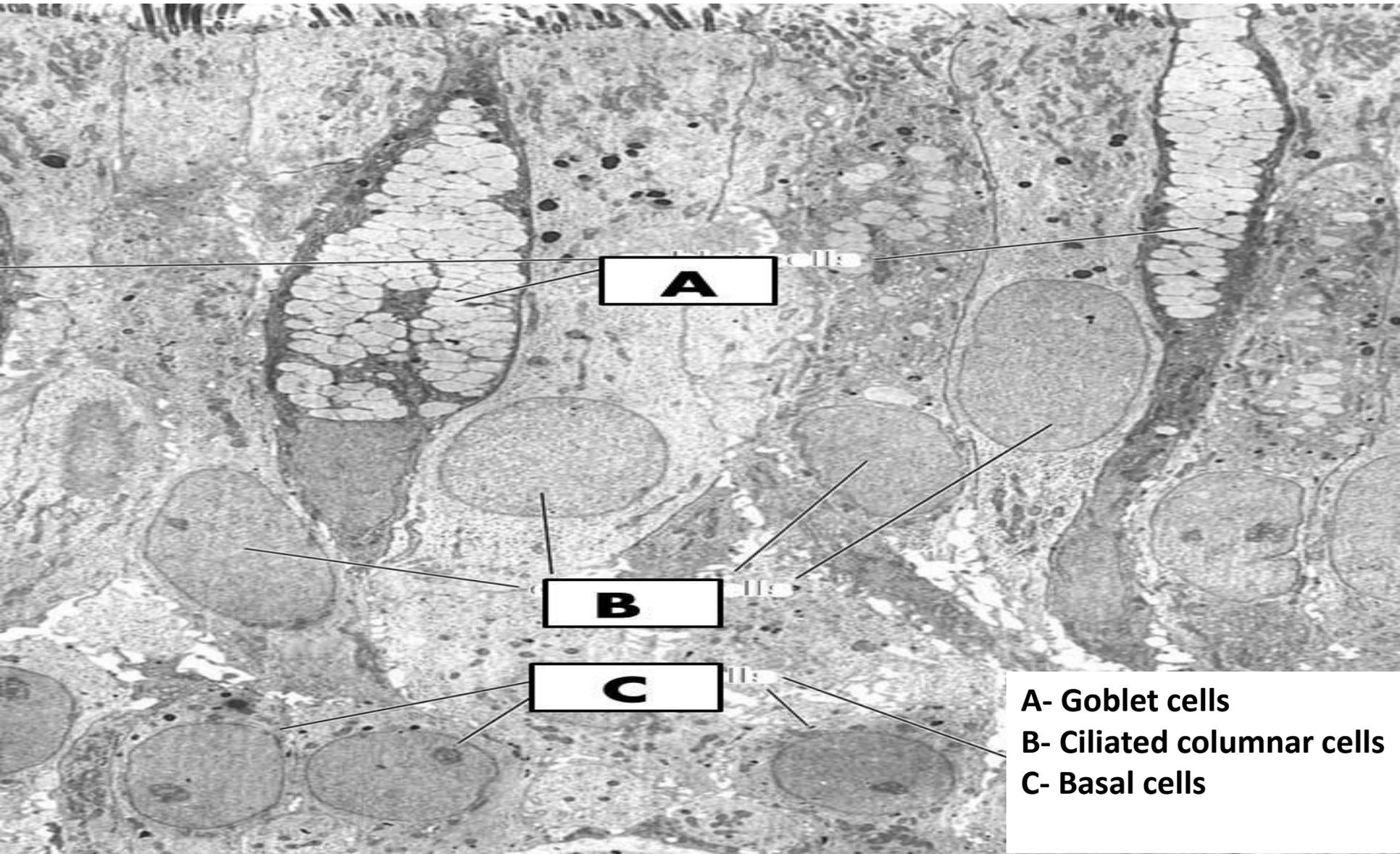
2-**Submucosa**: is formed of loose C.T. containing tracheal mucous glands and lymphatic nodules.

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



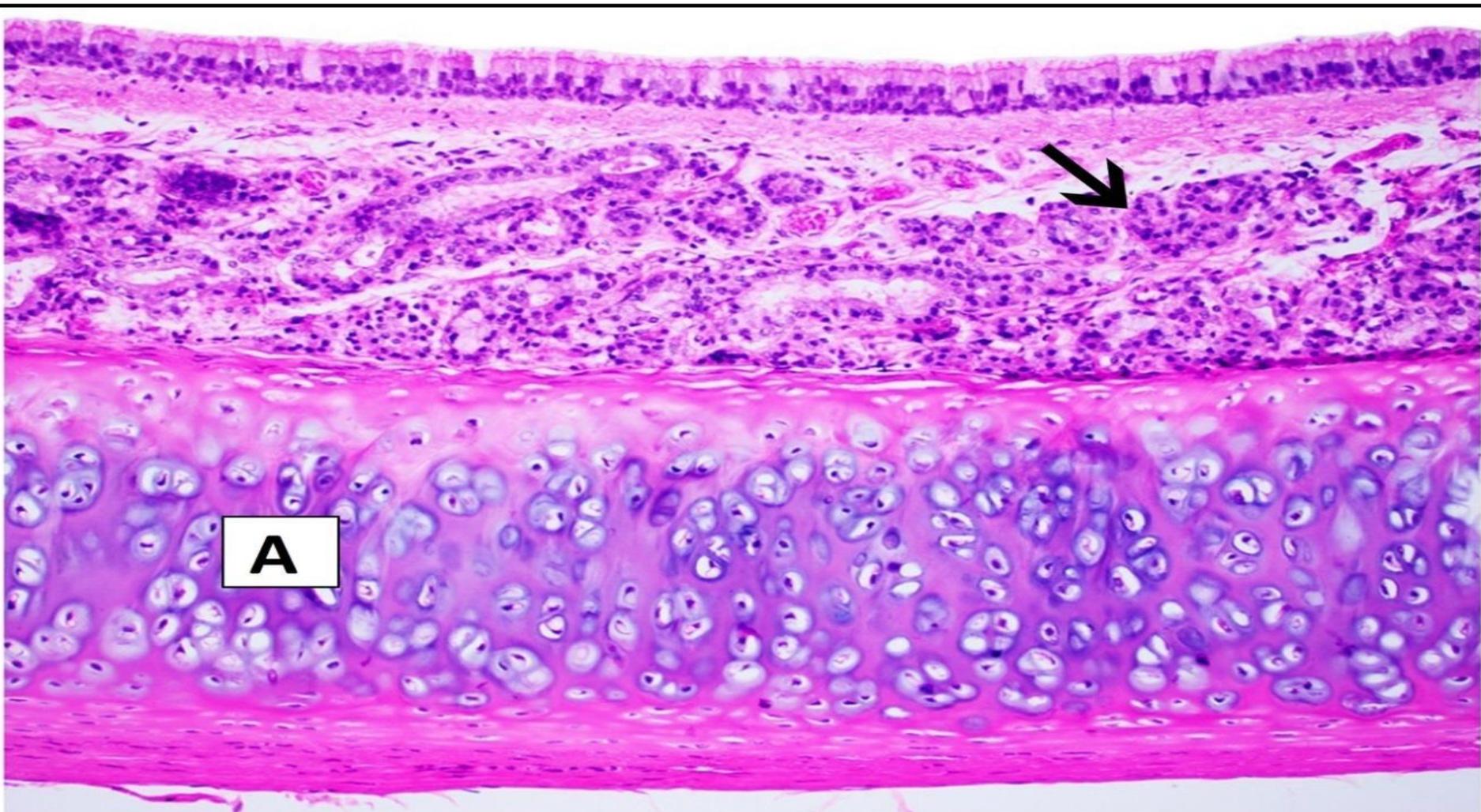
A

B

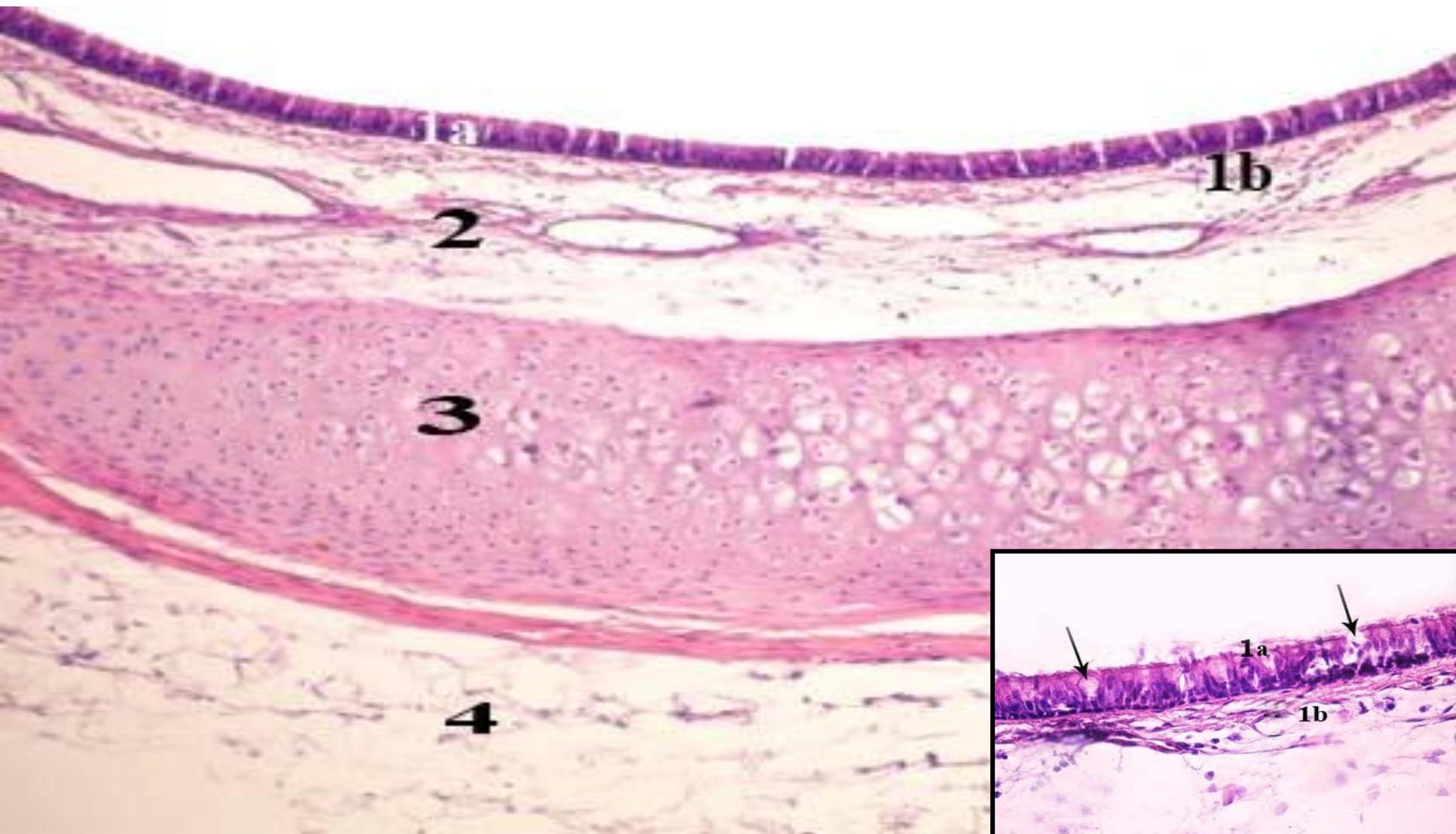
C

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

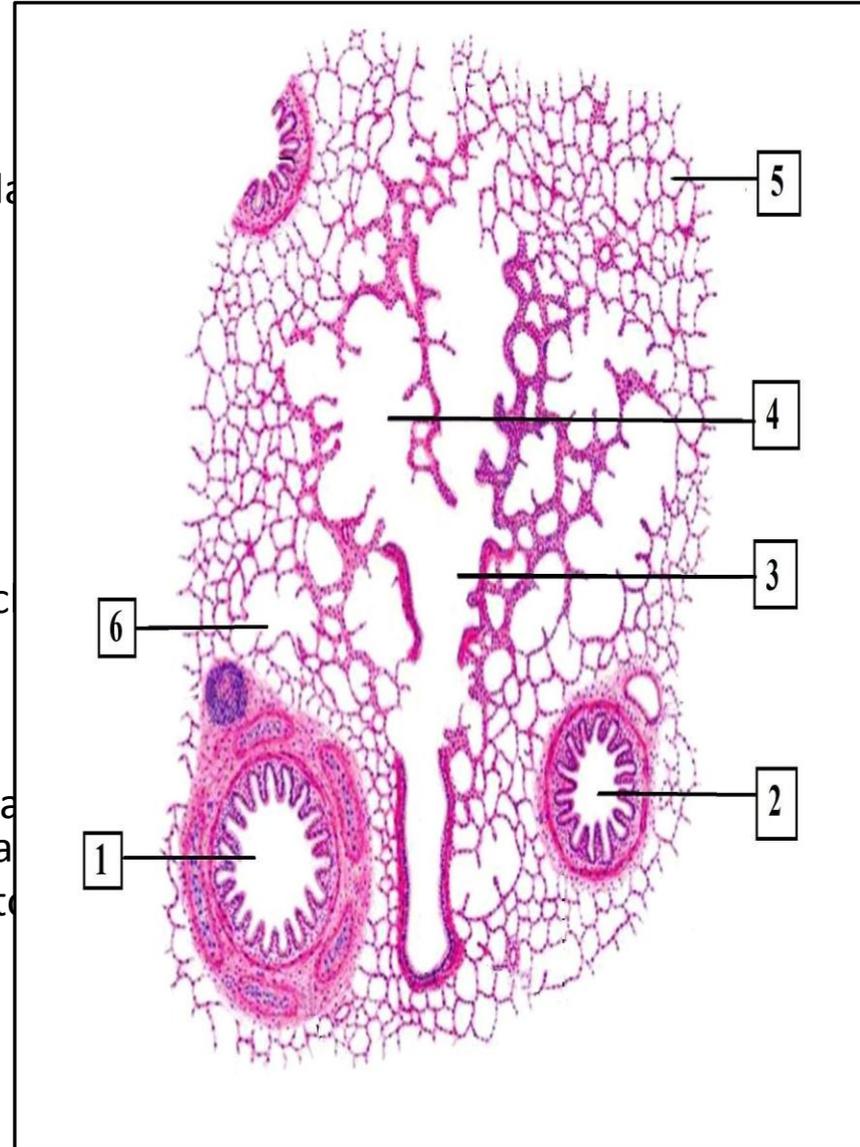
II- The respiratory portion consists of:

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

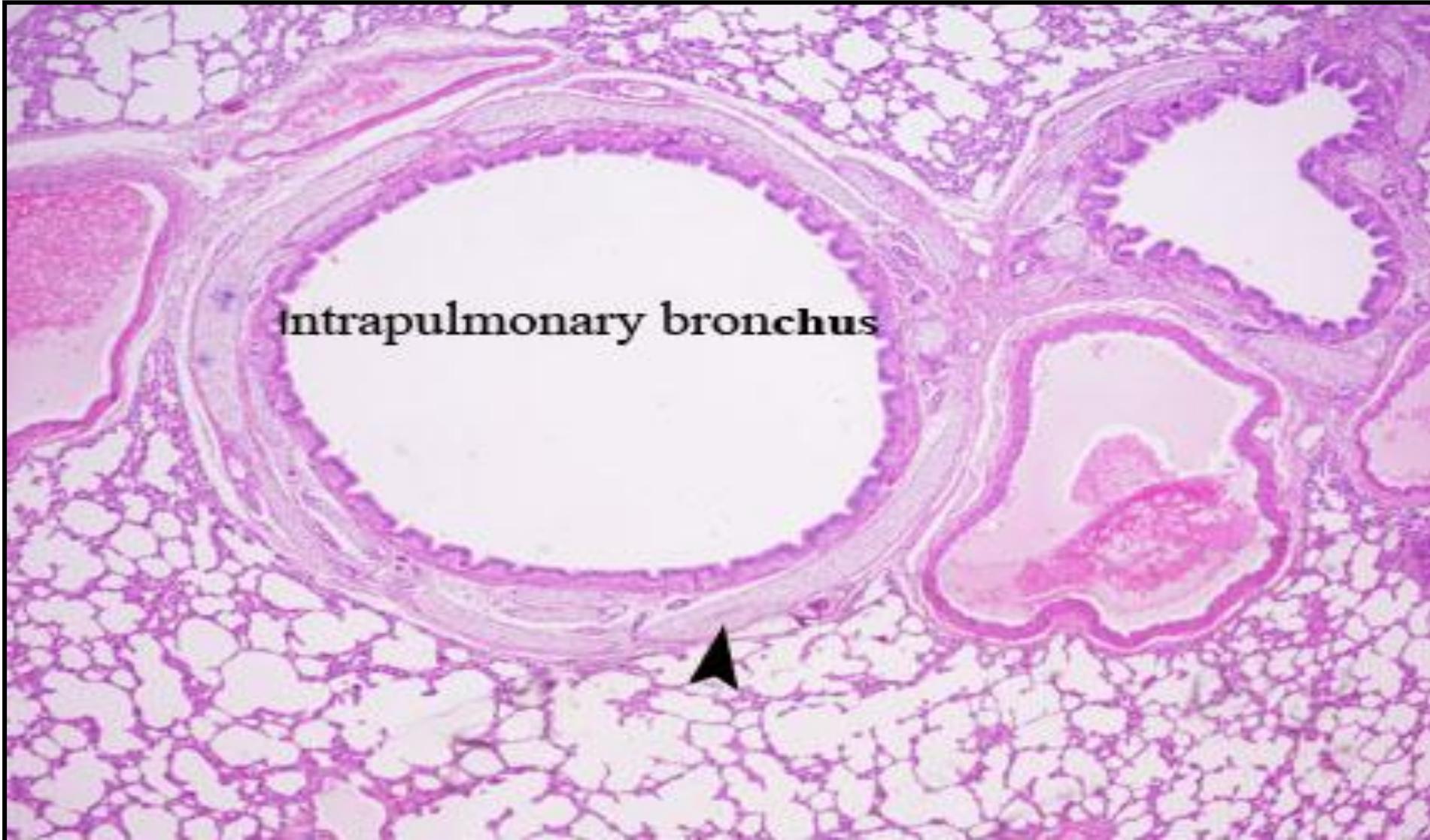
B- Alveolar ducts (3) are formed by several alveoli situated adjacent to each other with knobs between adjacent alveoli.

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

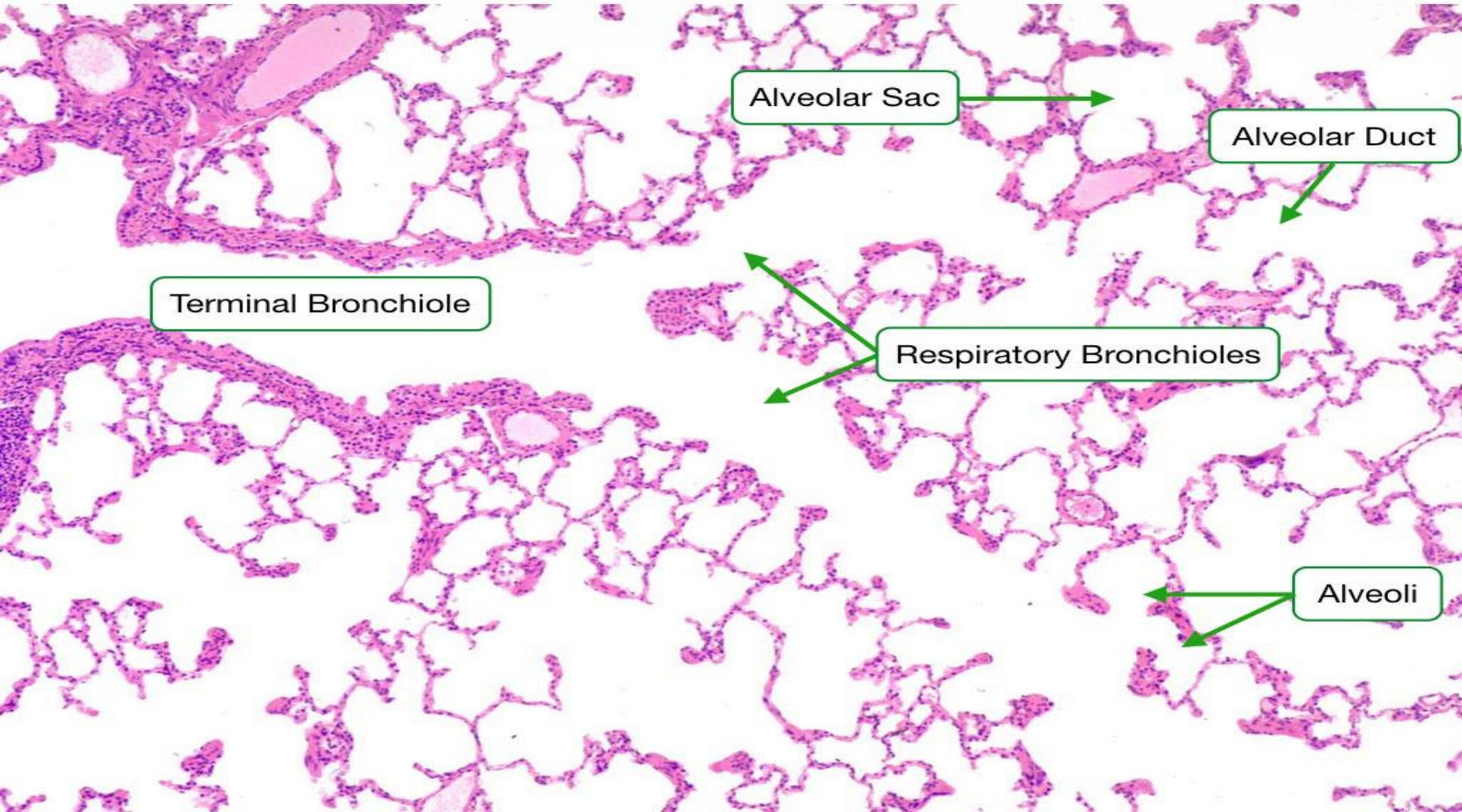
D- Alveoli (5) form the parenchyma of the lung.



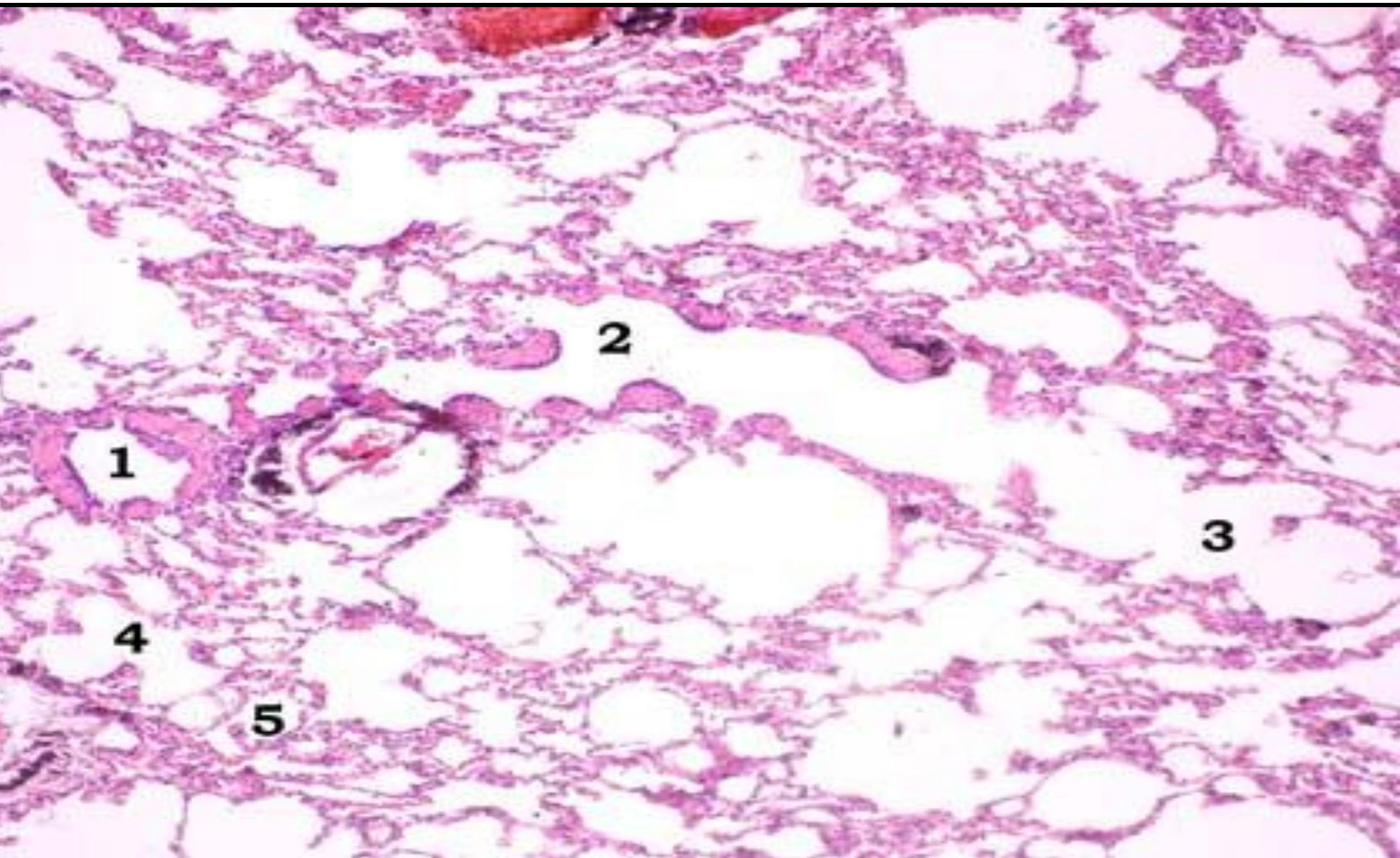
Lung



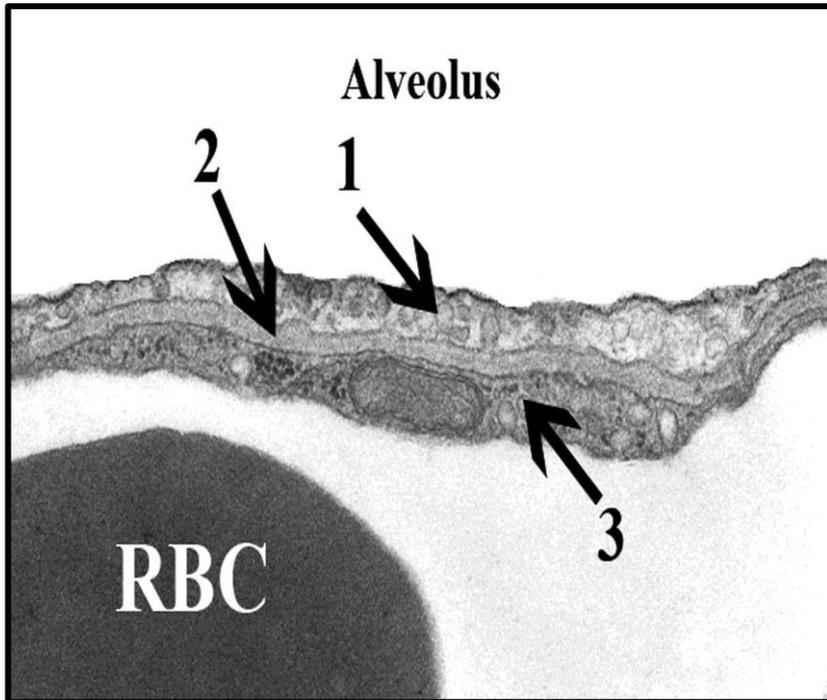
Lung



Lung



Type I pneumocyte



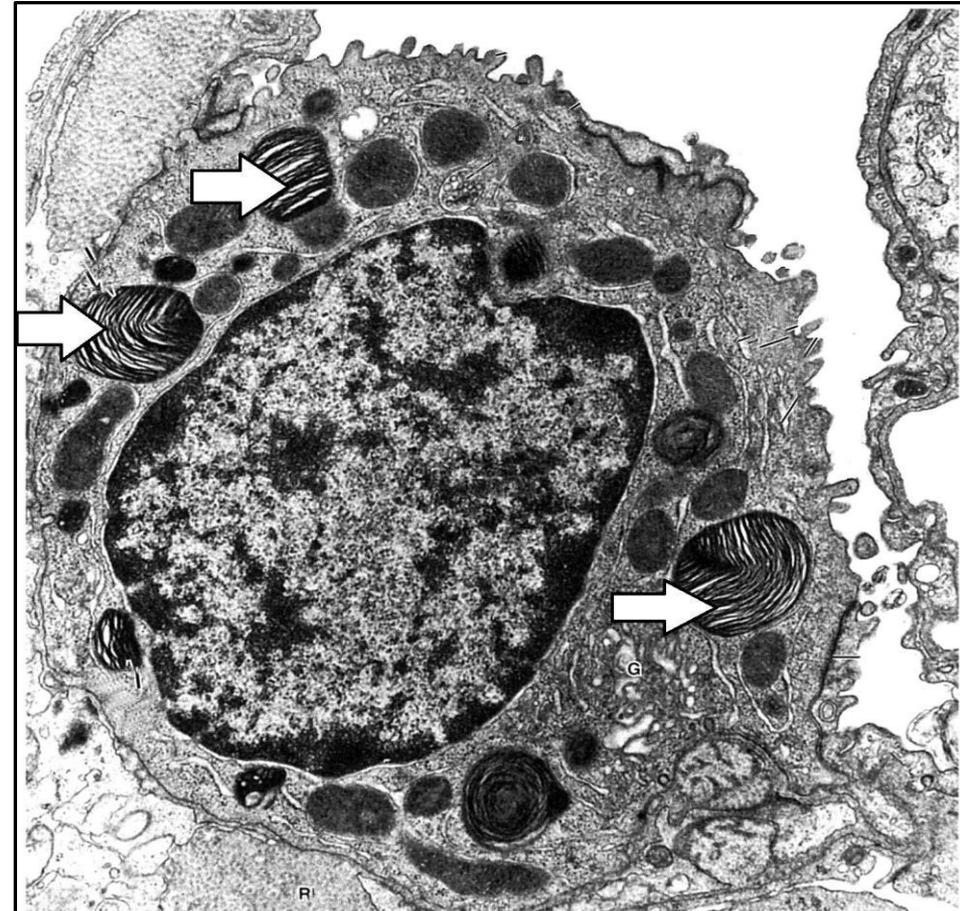
Air-blood barrier: The surfactant layer on the alveolar surface

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. The card is placed on a light-colored marble surface. To the left of the card is a bouquet of purple flowers. To the right is a black pen and a gift wrapped in white paper with a red and white striped ribbon. The gift is partially visible, showing a red and white striped ribbon tied around it.

Thank
you