DIGESTIVE SYSTEM

HISTOLOGY

Semester 2, Year 2

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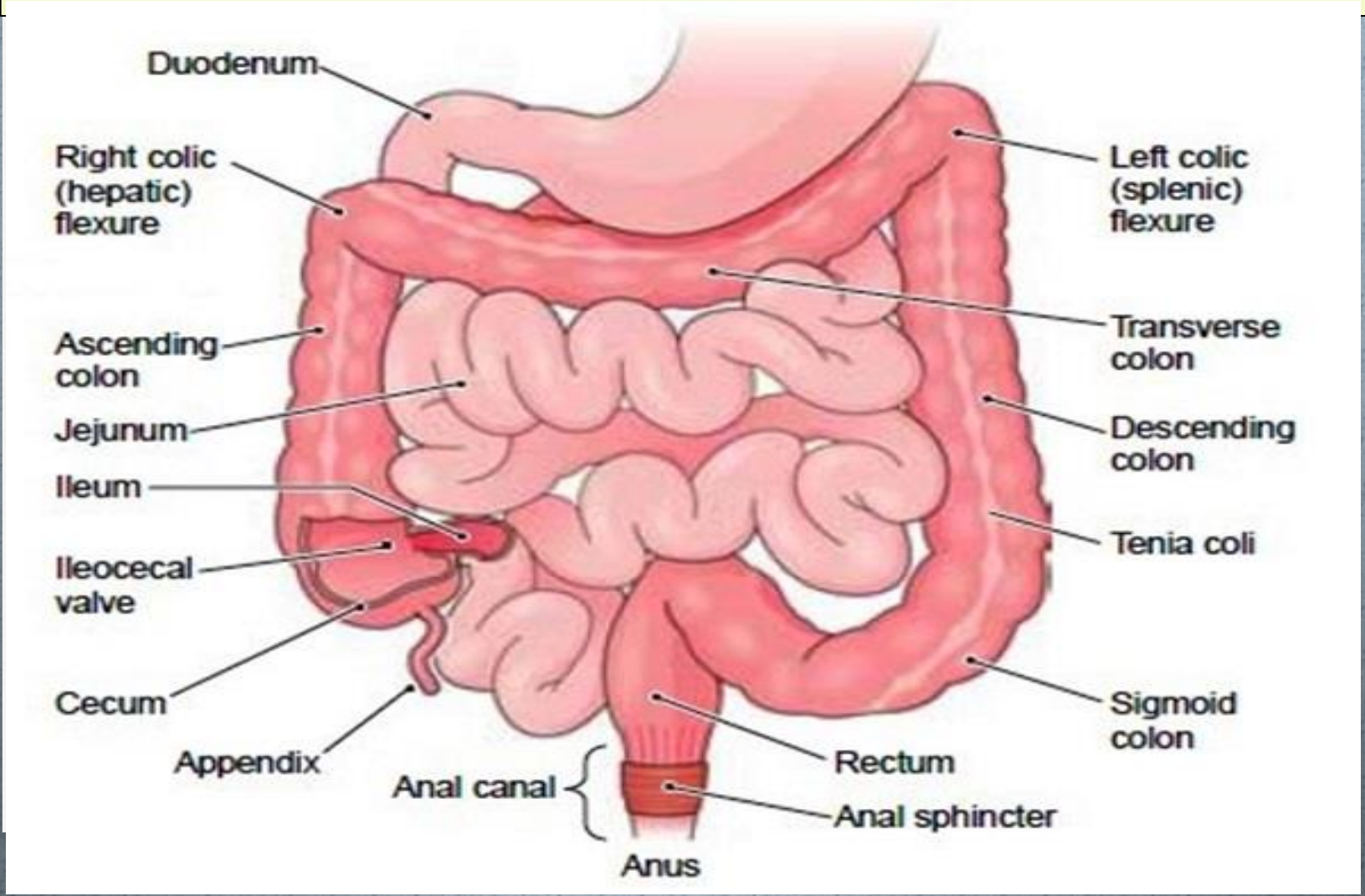
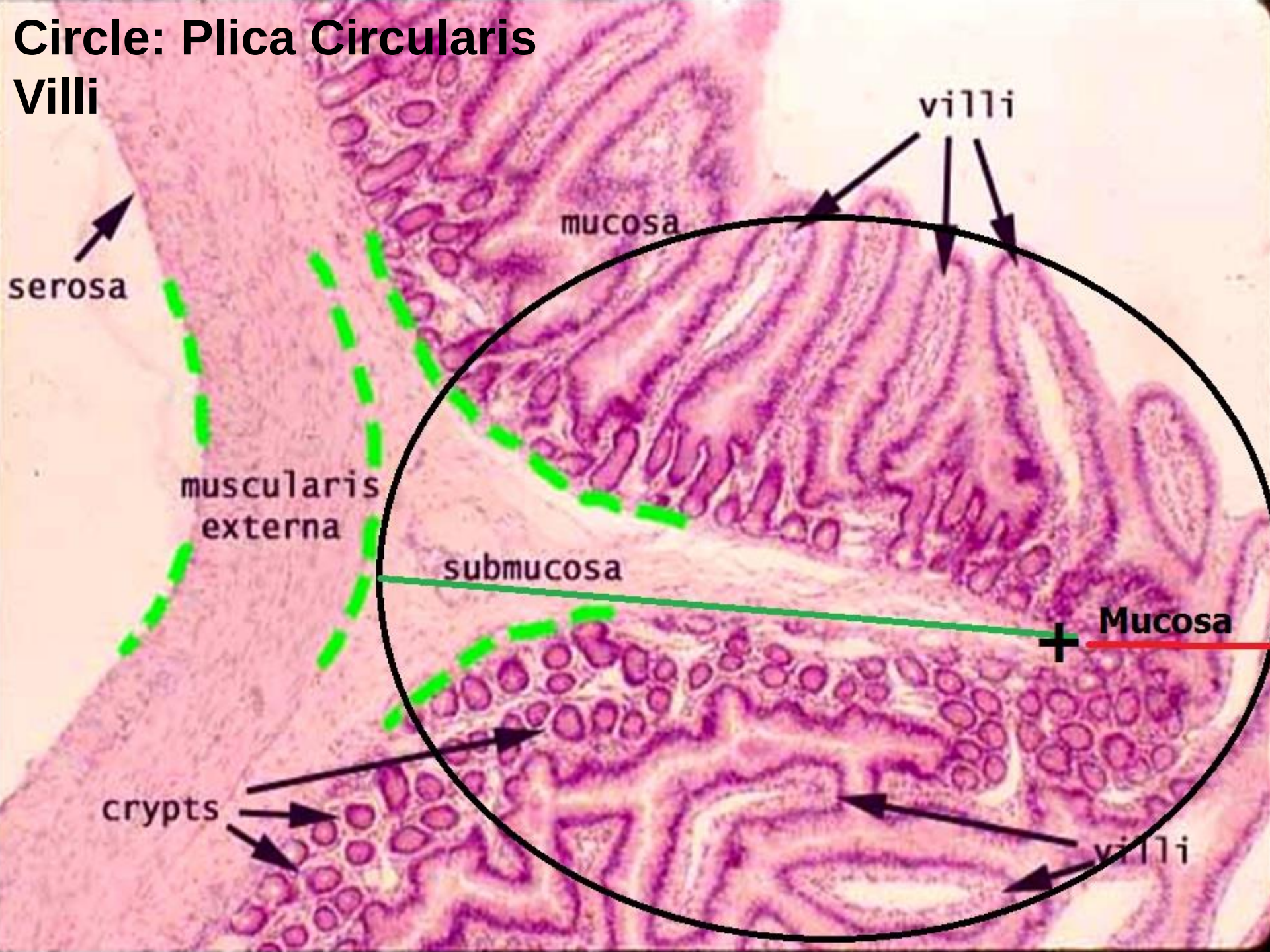
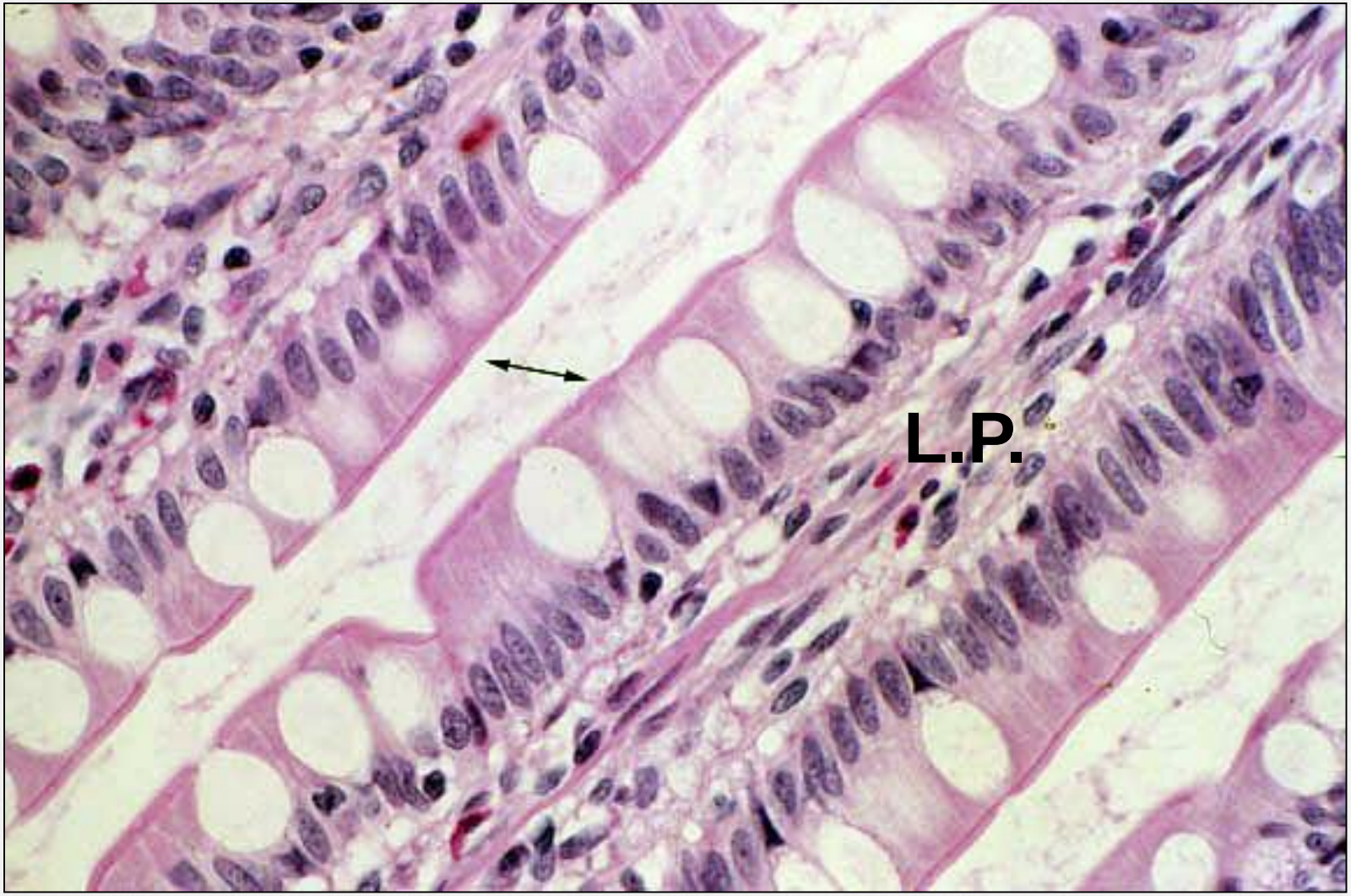
Associate professor of Human histology & Cell Biology

Small Intestine




Circle: Plica Circularis
Villi
villi
mucosa
serosa
muscularis
externa
submucosa
Mucosa
crypts
villi

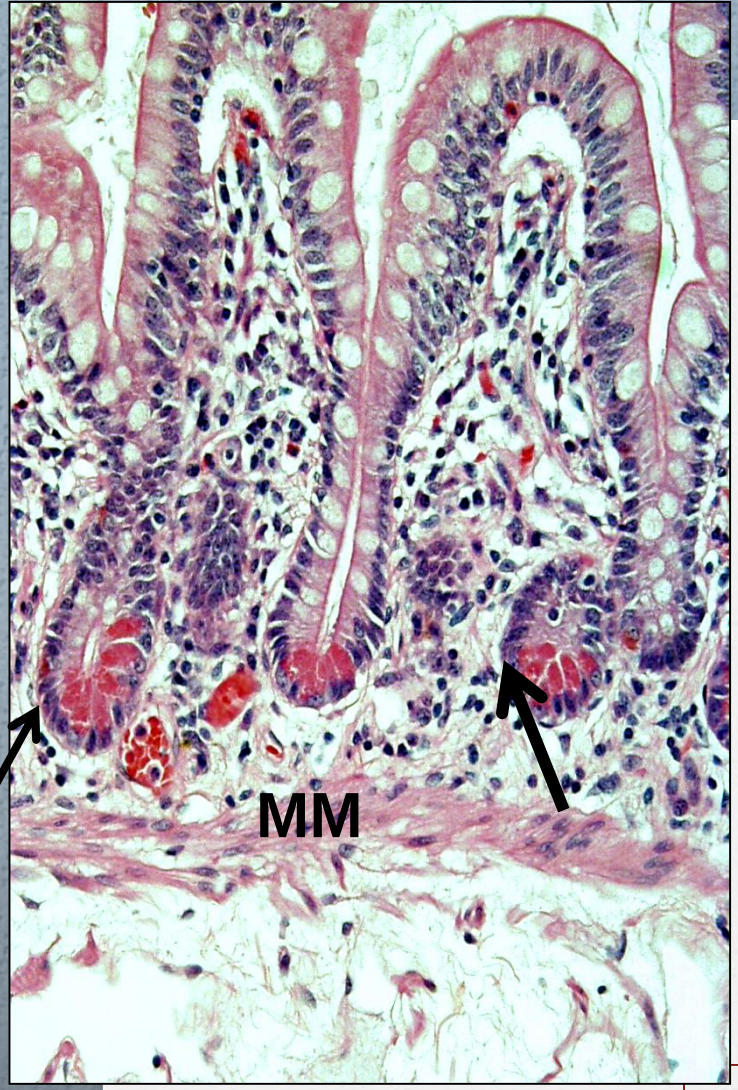
Intestinal Villus: Core of lamina propria (L.P.) covered with epithelium

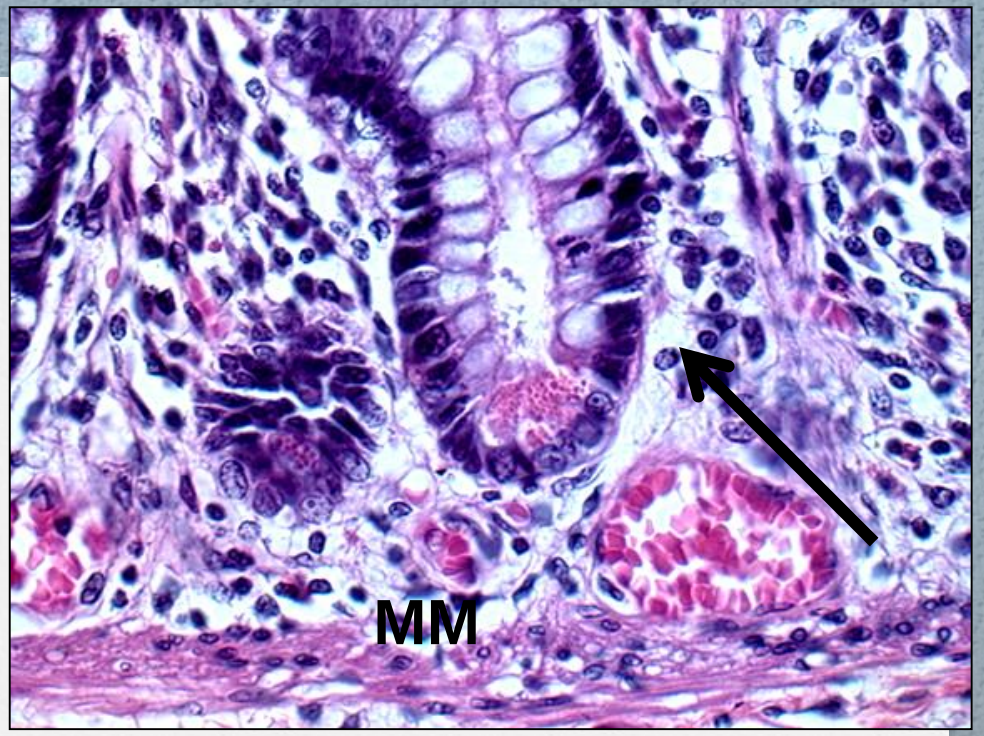


Brush Border (arrow)

Goblet Cells

(appear vacuolated in H&E-stained sections)





Paneth Cells (Arrows)

Only at the ***Base*** of the crypts

Apical acidophilic Zymogen Granules

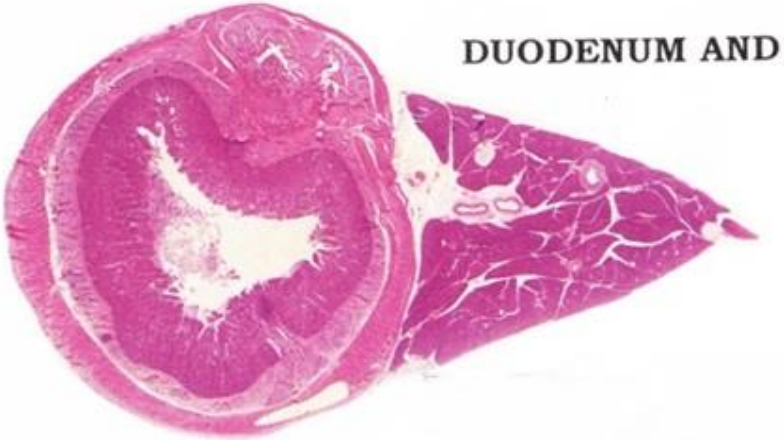
Secrete Lysozyme (Antibacterial).

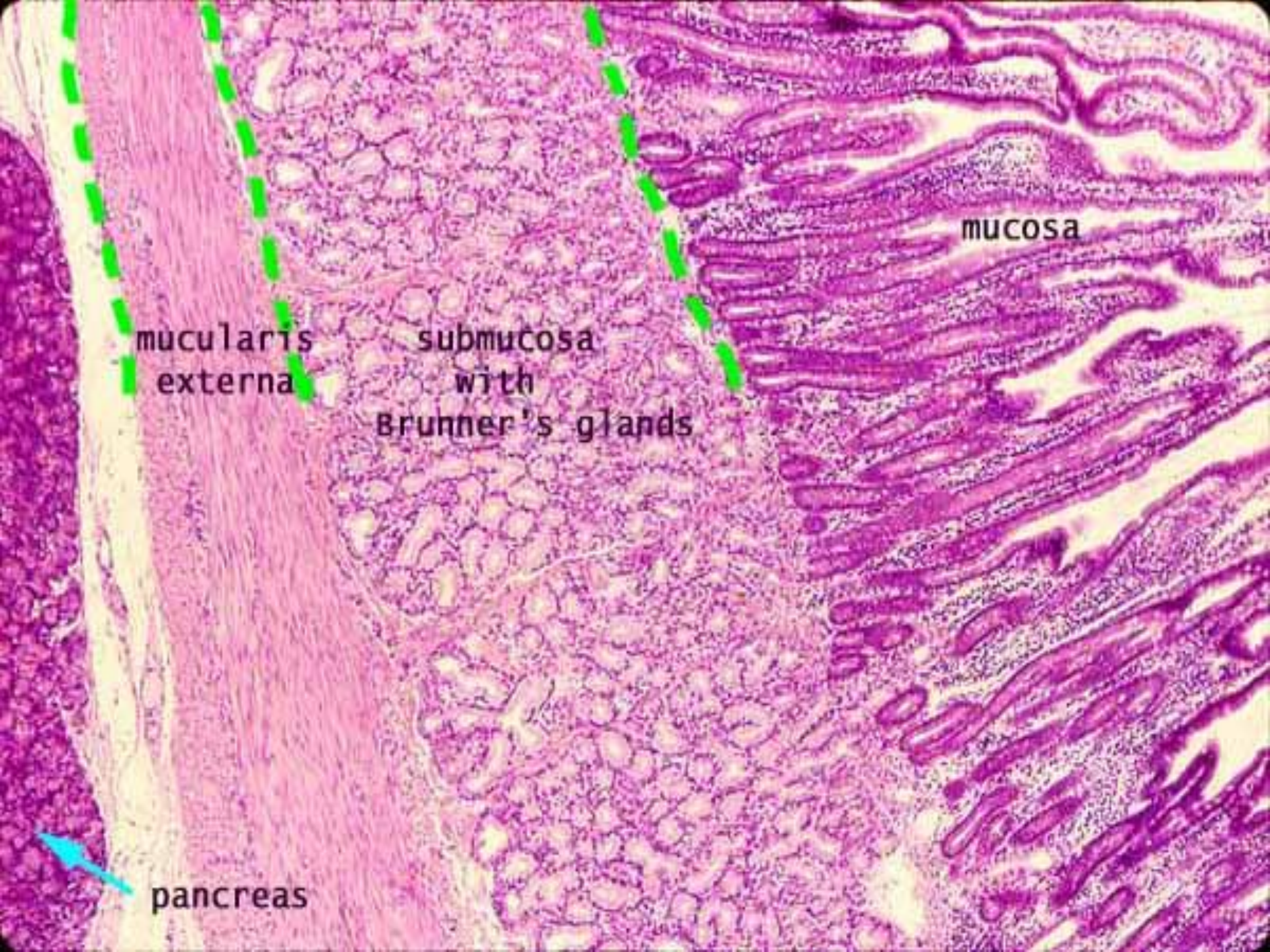
Duodenum

Duodenum

V: Villi
G: Brunner's Glands

Compound Slide:




mucosa
muscularis
externa
submucosa
with
Brunner's glands
pancreas

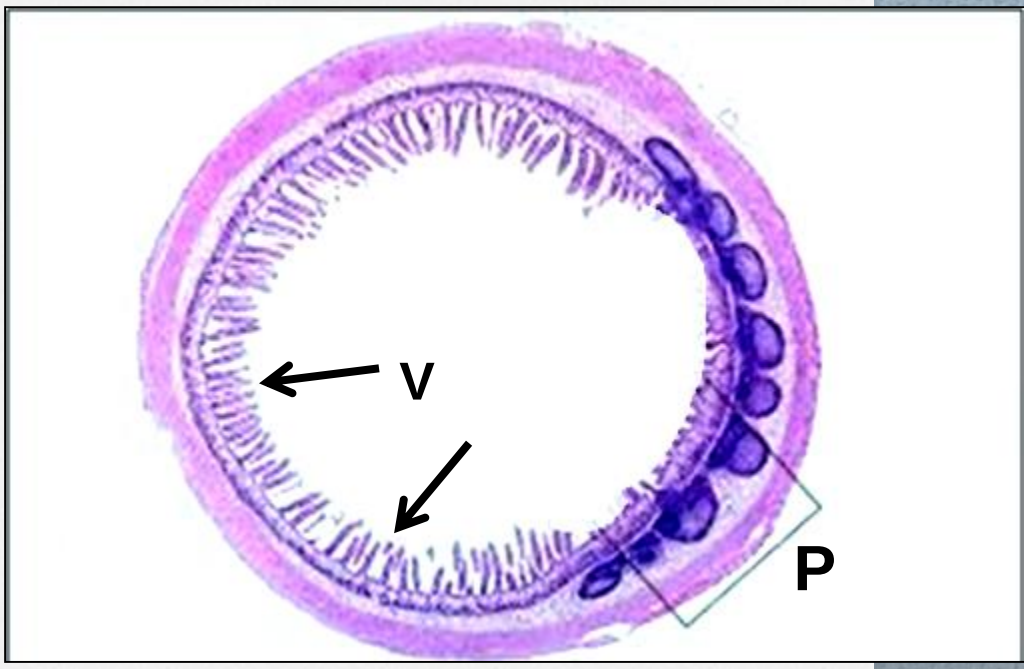
Ileum

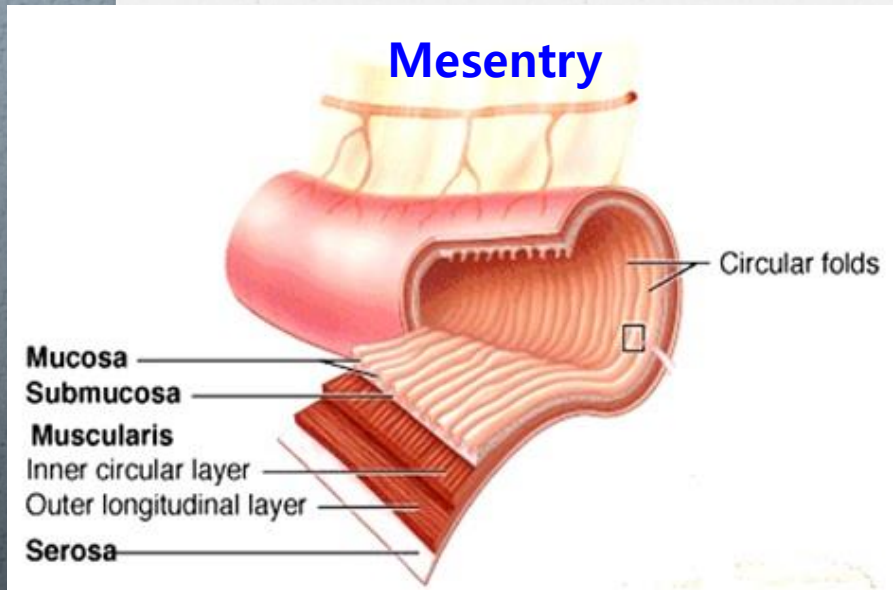
Ileum

V:villi

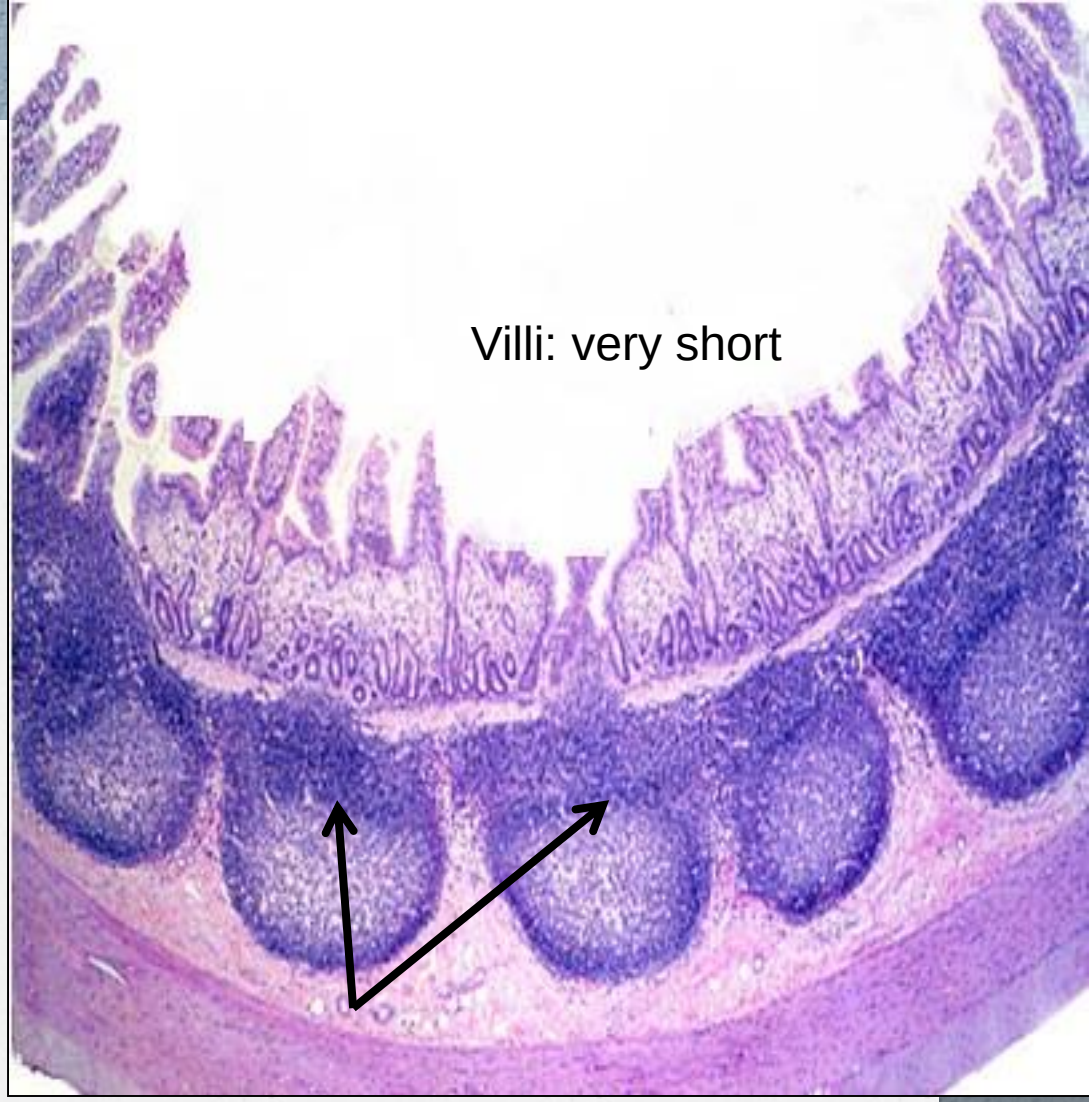
P:Peyer's patches.

Present ONLY at the anti-mesenteric border.



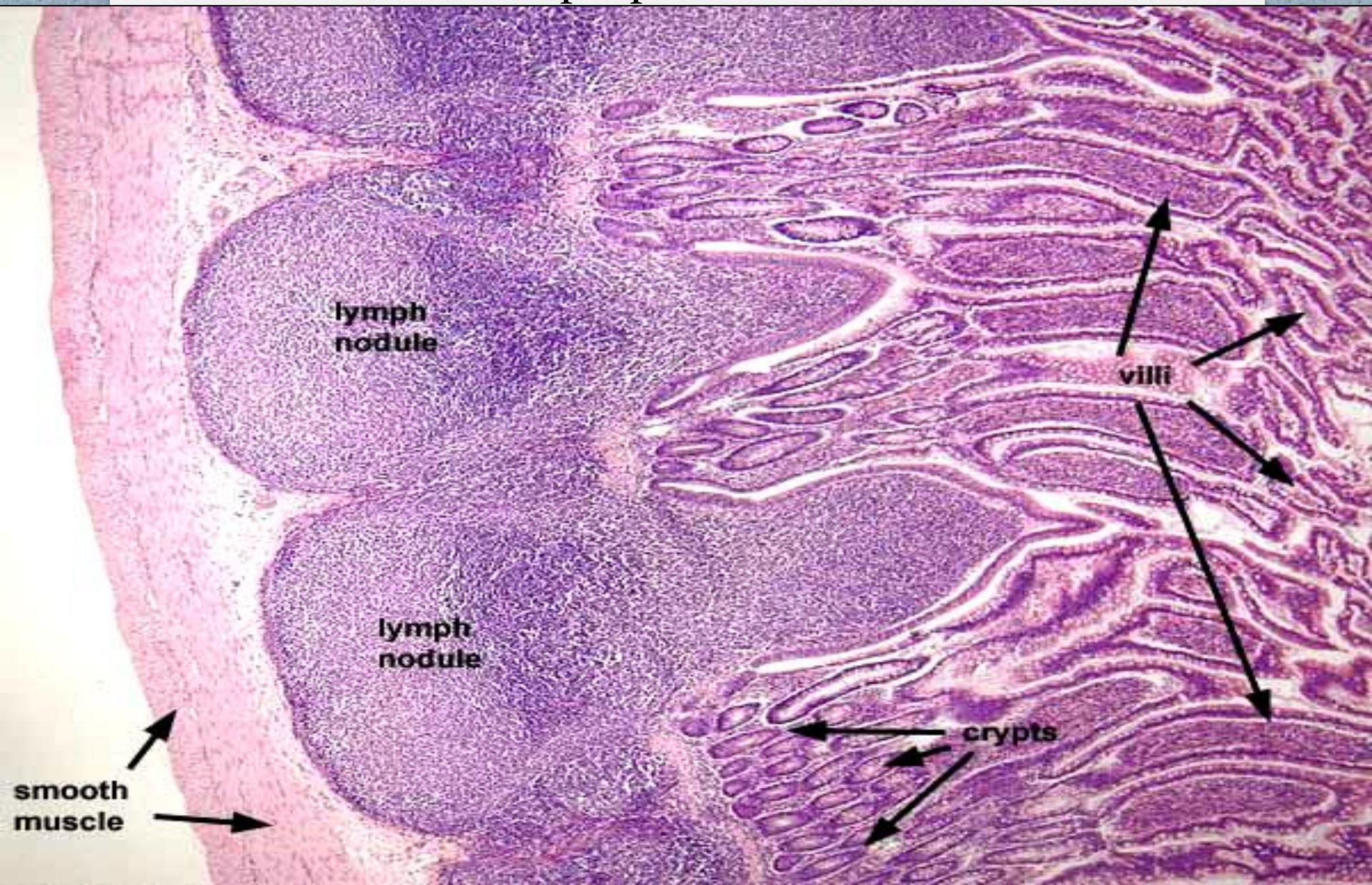


Peyer's Patches

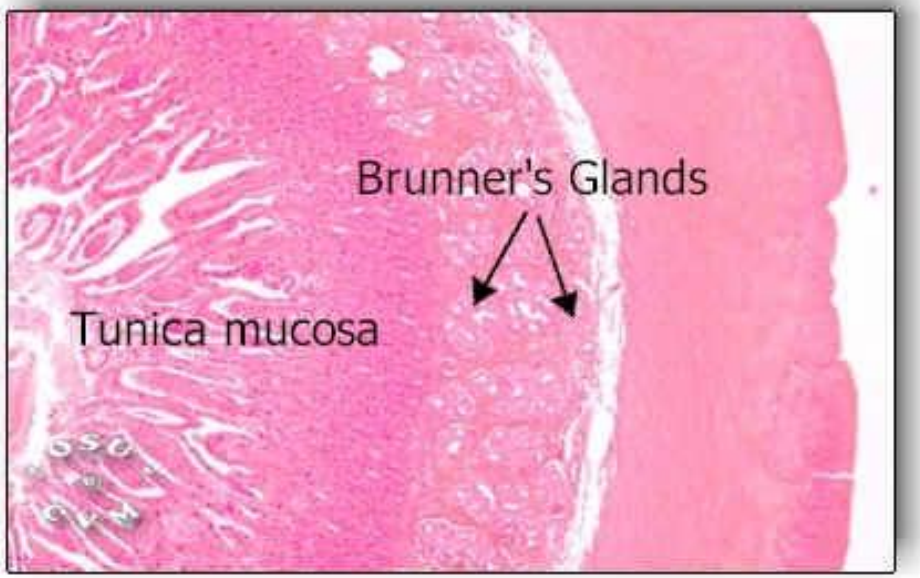


The **villi** over Peyers´ patches are ***short or absent***.

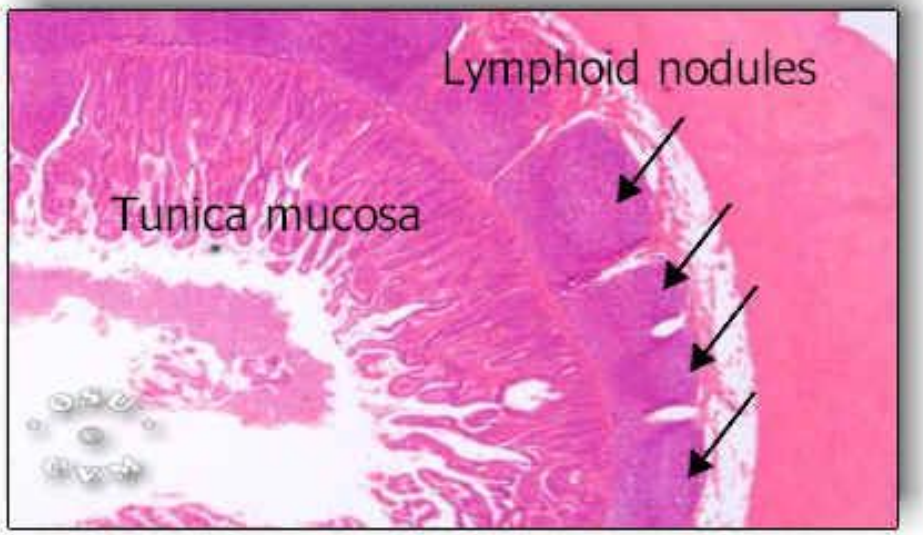
Peyer's Patches may penetrate the muscularis mucosa & reach the lamina propria of the mucosa.



Duodenum

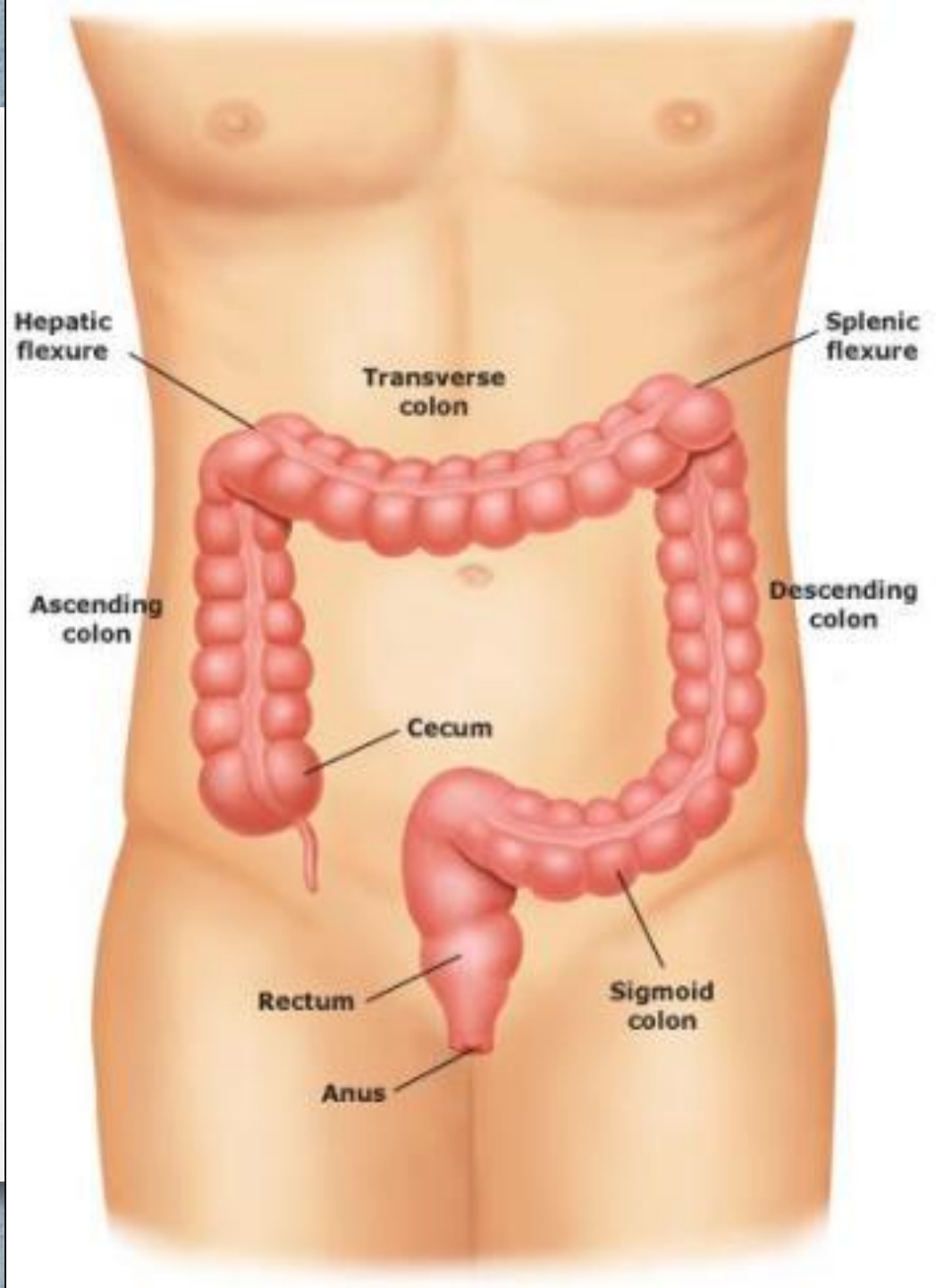


Ileum



Jejunum

Large Intestine



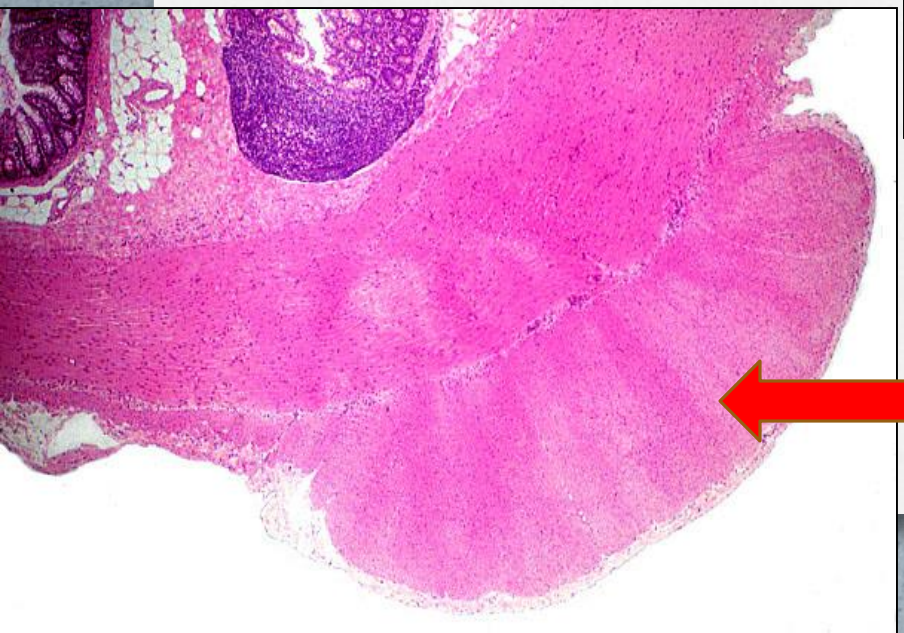
- No Villi
- Deep wide crypts
- Numerous goblet cells

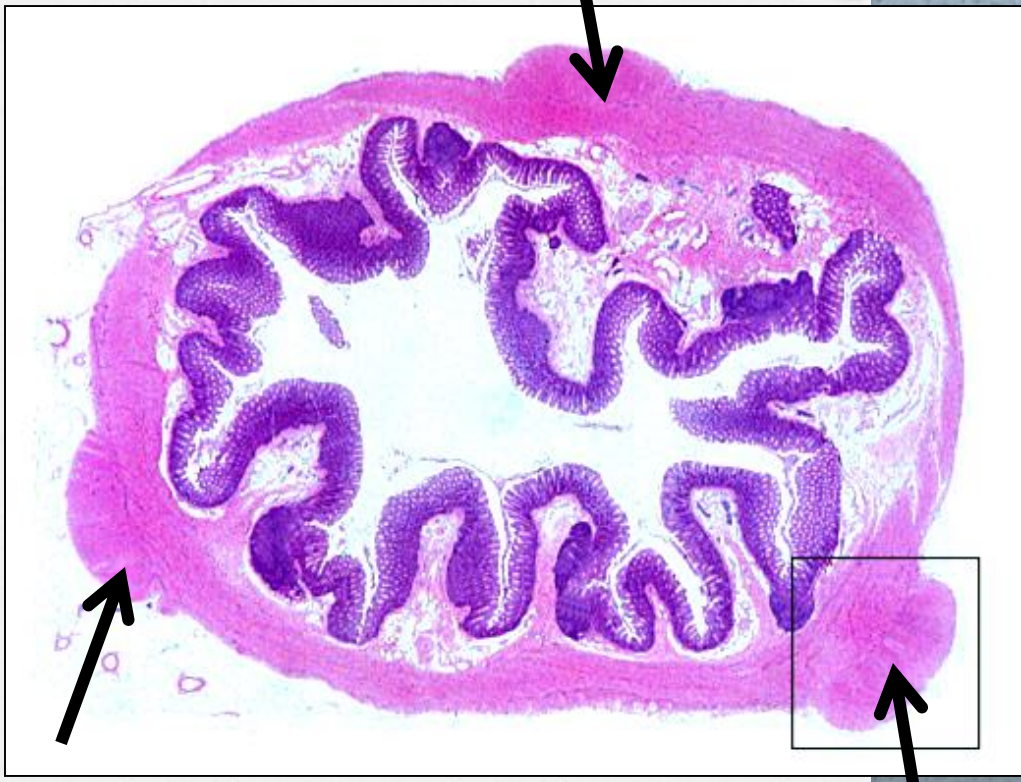
2. **Submucosa:**

No glands.

3. **Musculosa:**

IC, OL → The outer longitudinal layer is not continuous but present in 3 bundles or bands called **Taenia Coli.**

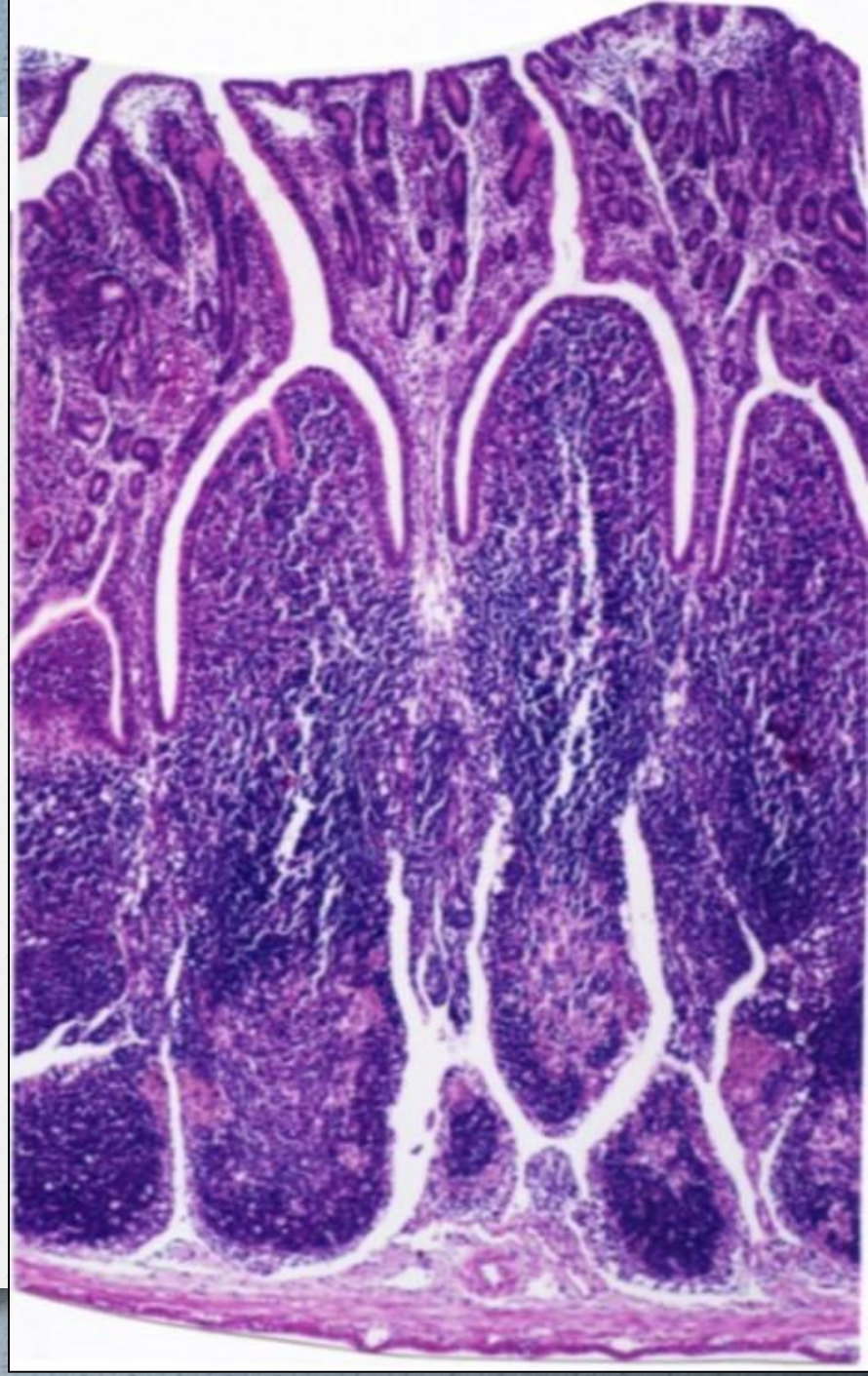




3 bands of Taenia Coli

Appendix of rabbit

Inverted y-shaped crypts

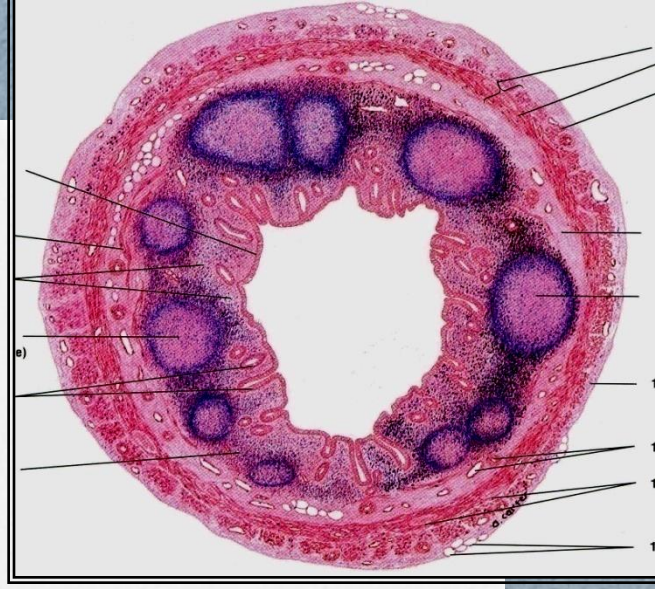


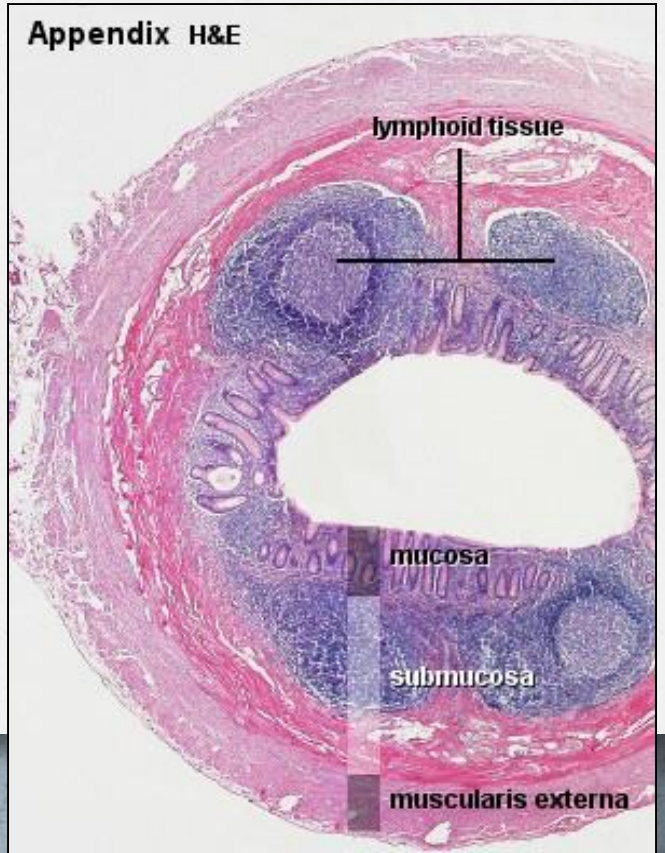
- 2. Submucosa: rich in lymphatic nodules.
- 3. Musculosa: thin IC, OL

(NO Taenia coli).

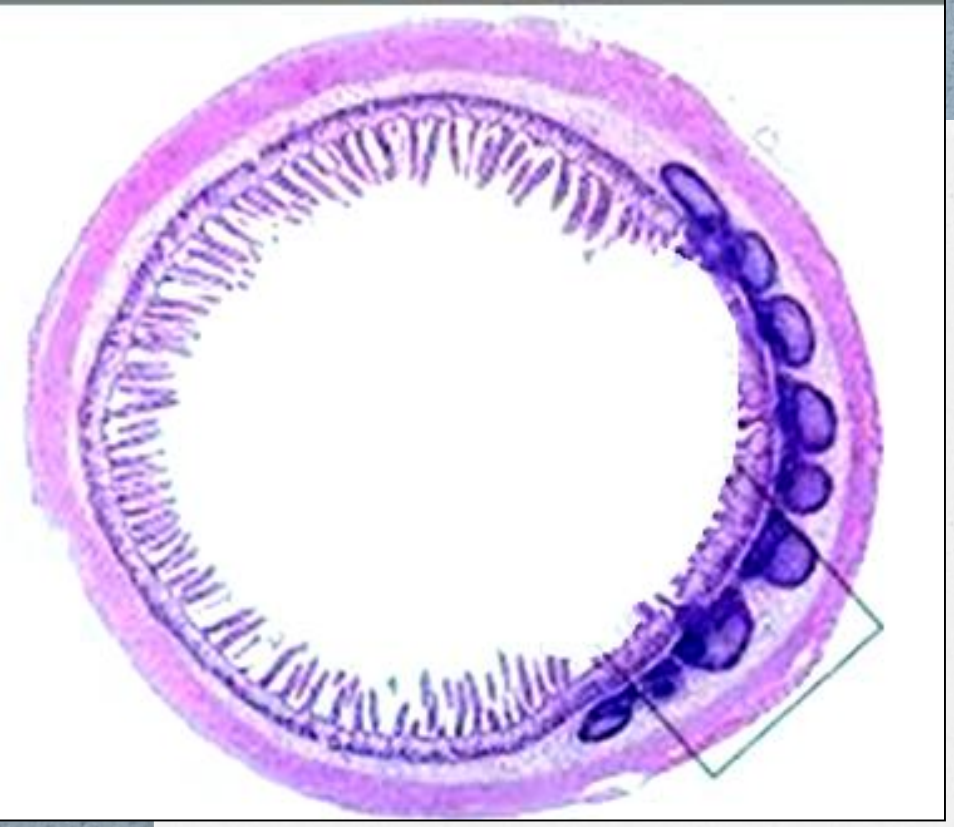
- 4. Serosa: C.T, mesothelium.

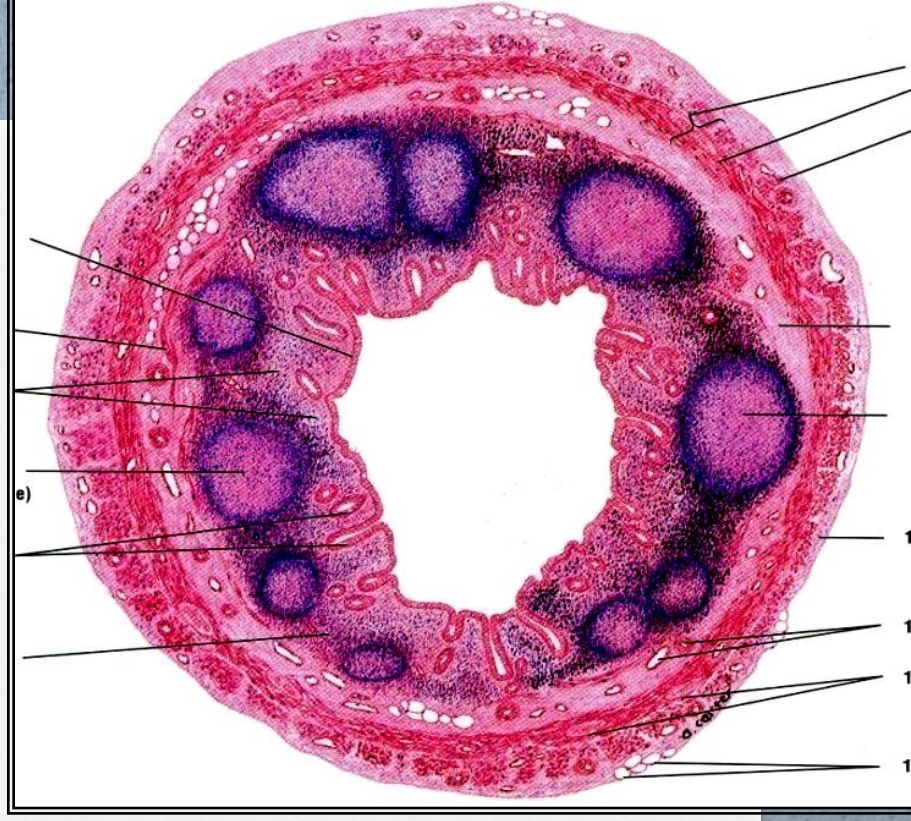
(NO Appendicis epiploicae).





Extensive accumulation of lymphatic nodules.





Ileum

Villi + Crypts.

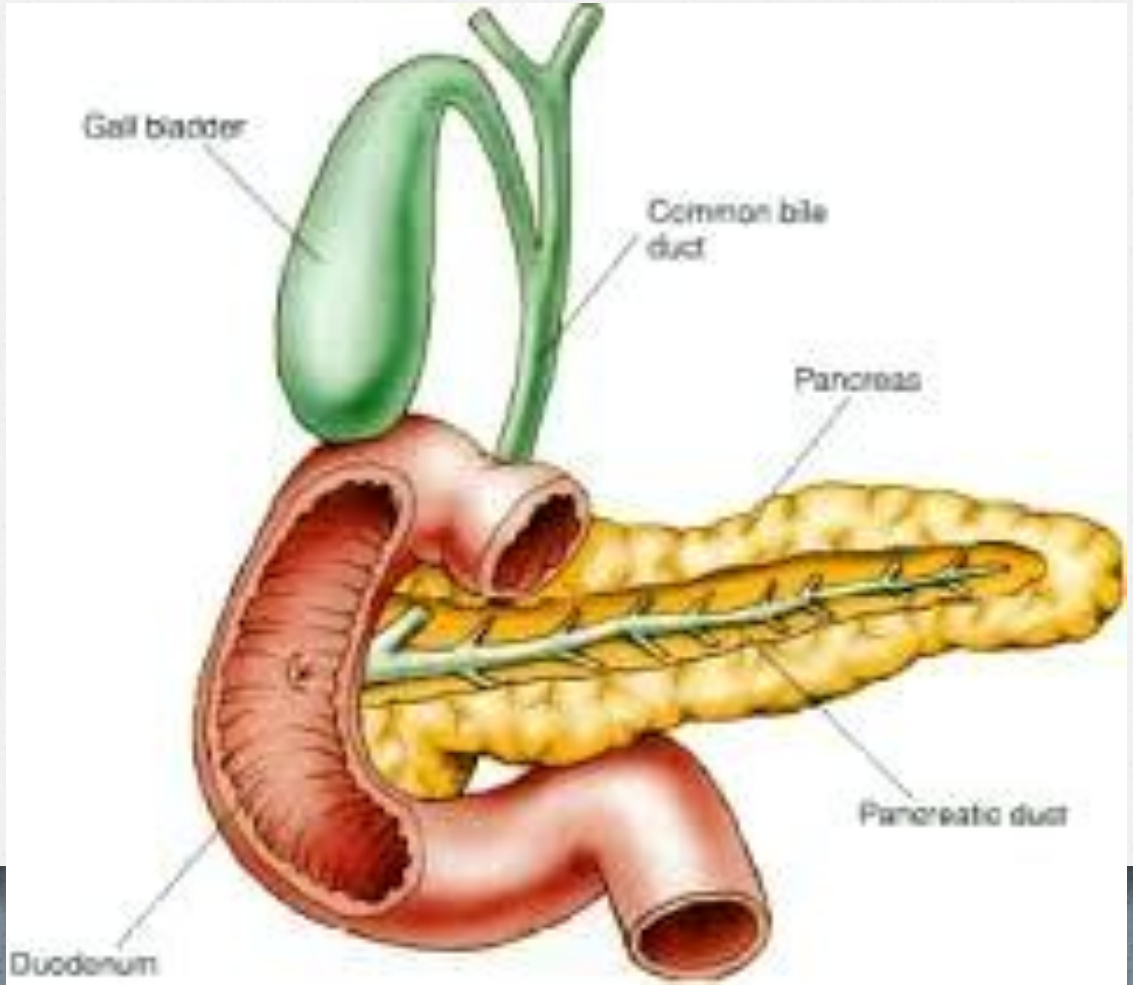
Lymphatic Nodules: Only on the ***anti—mesentric border***

Appendix

NO Villi. Crypts ONLY.

Lymphatic Nodules: ***All around***

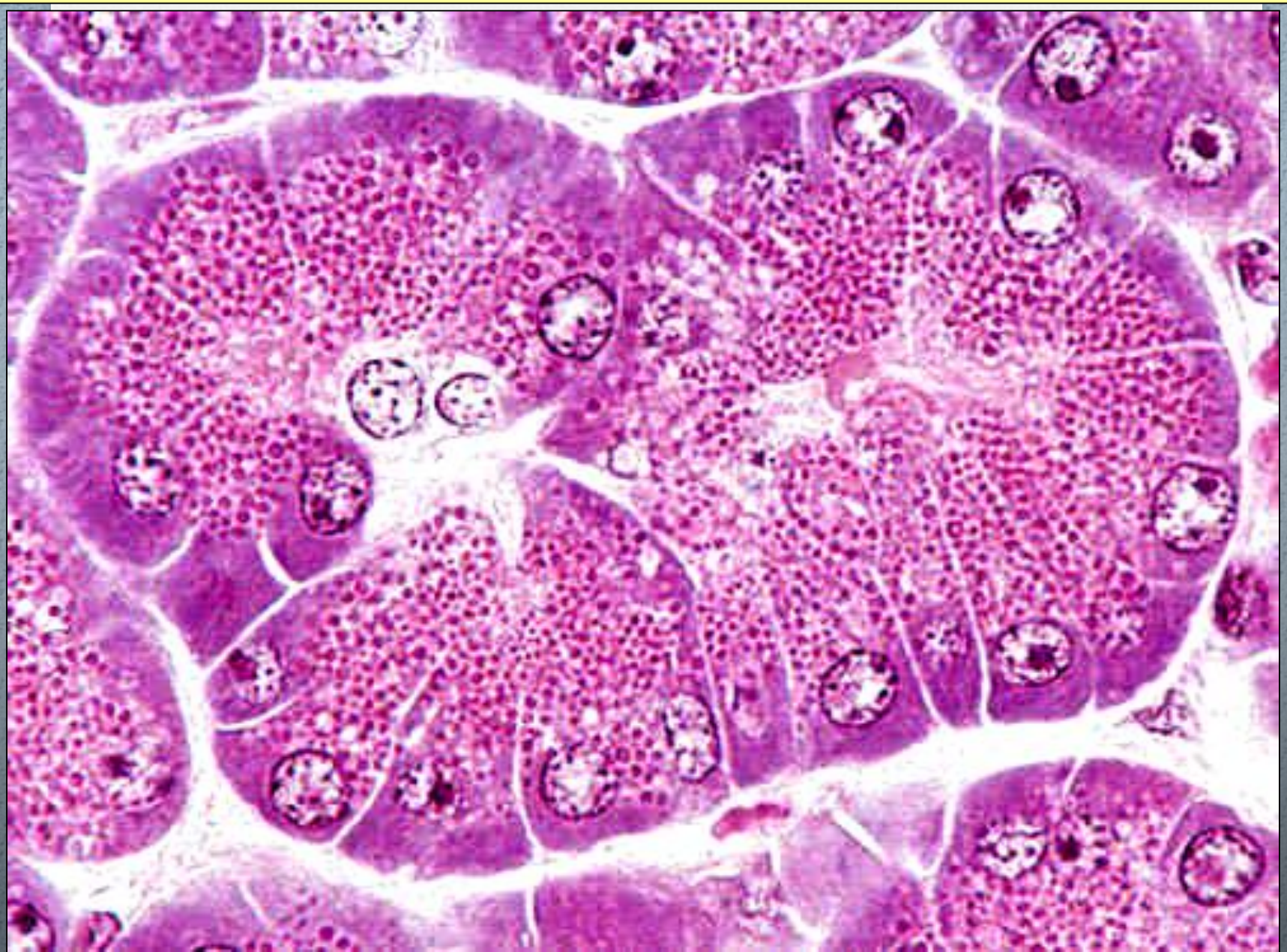
Pancreas


Gall bladder
Common bile duct
Pancreas
Pancreatic duct
Duodenum

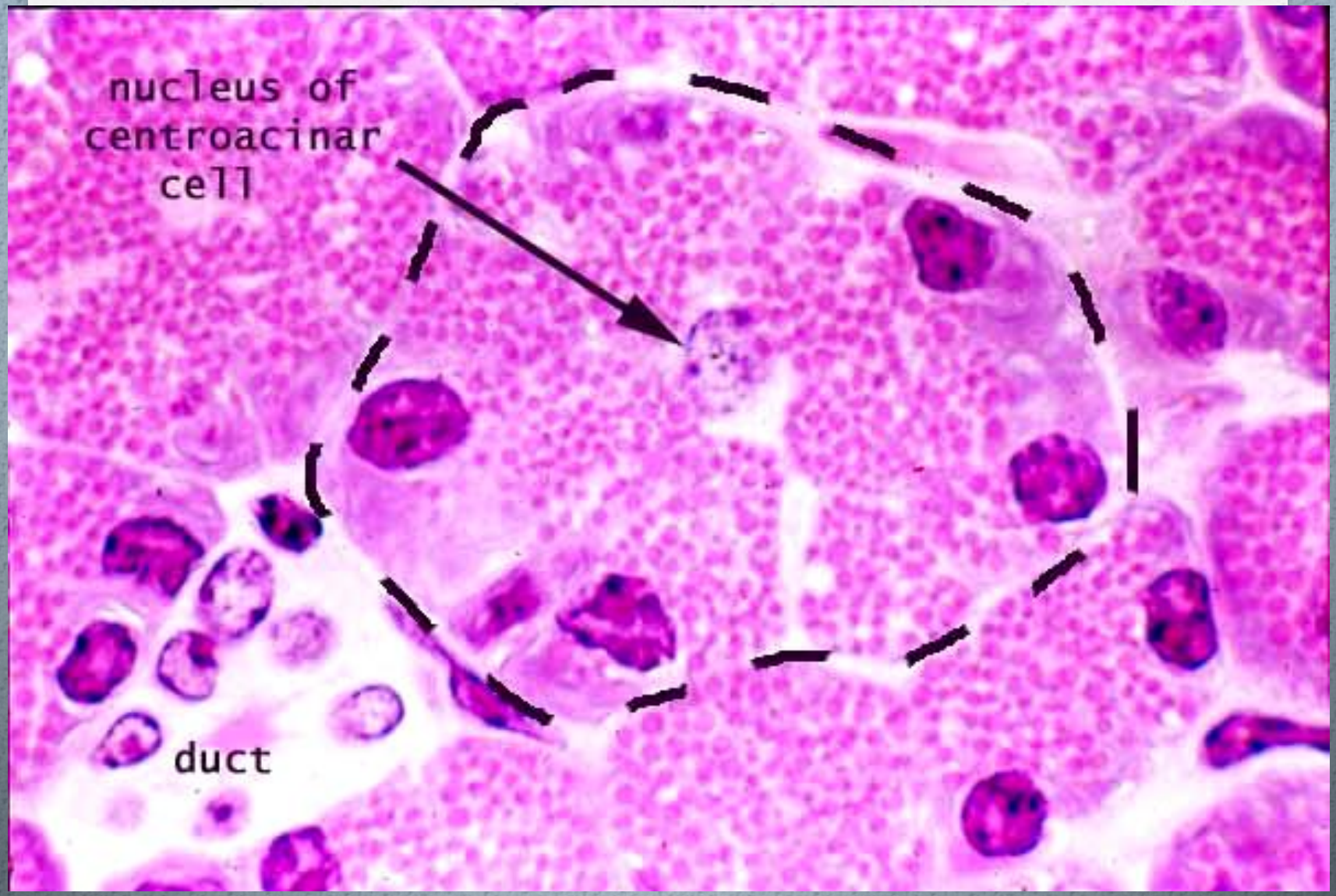
Stroma of Pancreas

Capsule: Thin. Trabeculae: Thin, delicate, divide the gland into ill-distinct lobes and lobules + Reticular C.T. (Ag)

Pancreatic acini: basal basophilia & apical acidophilic Zymogen granules

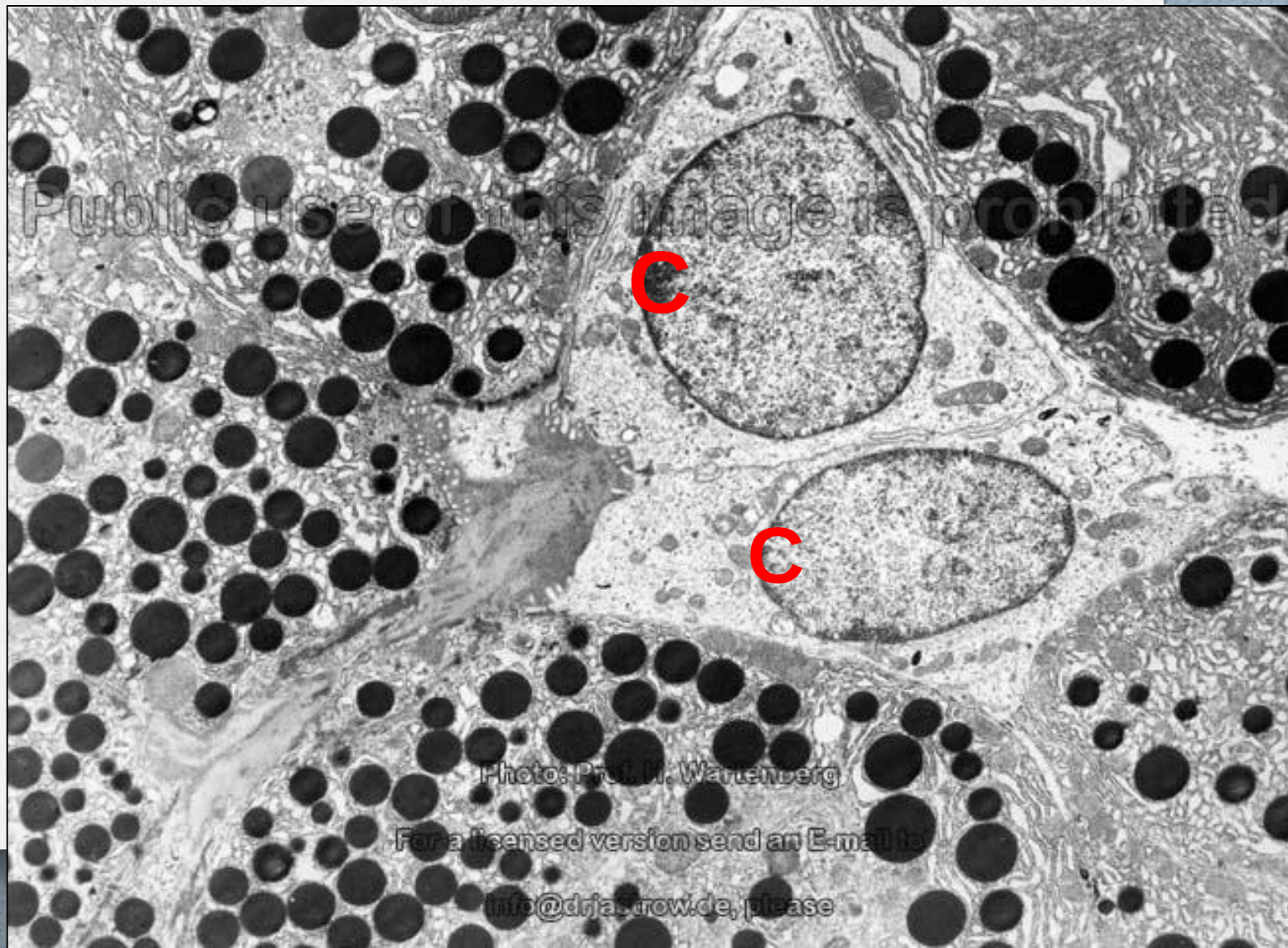


Centroacinar Cells



E.M. Picture: at low mag. Showing Pancreatic Acinus with a central lumen enclosing 2 nuclei of centroacinar cells (C) (Pale-stained)

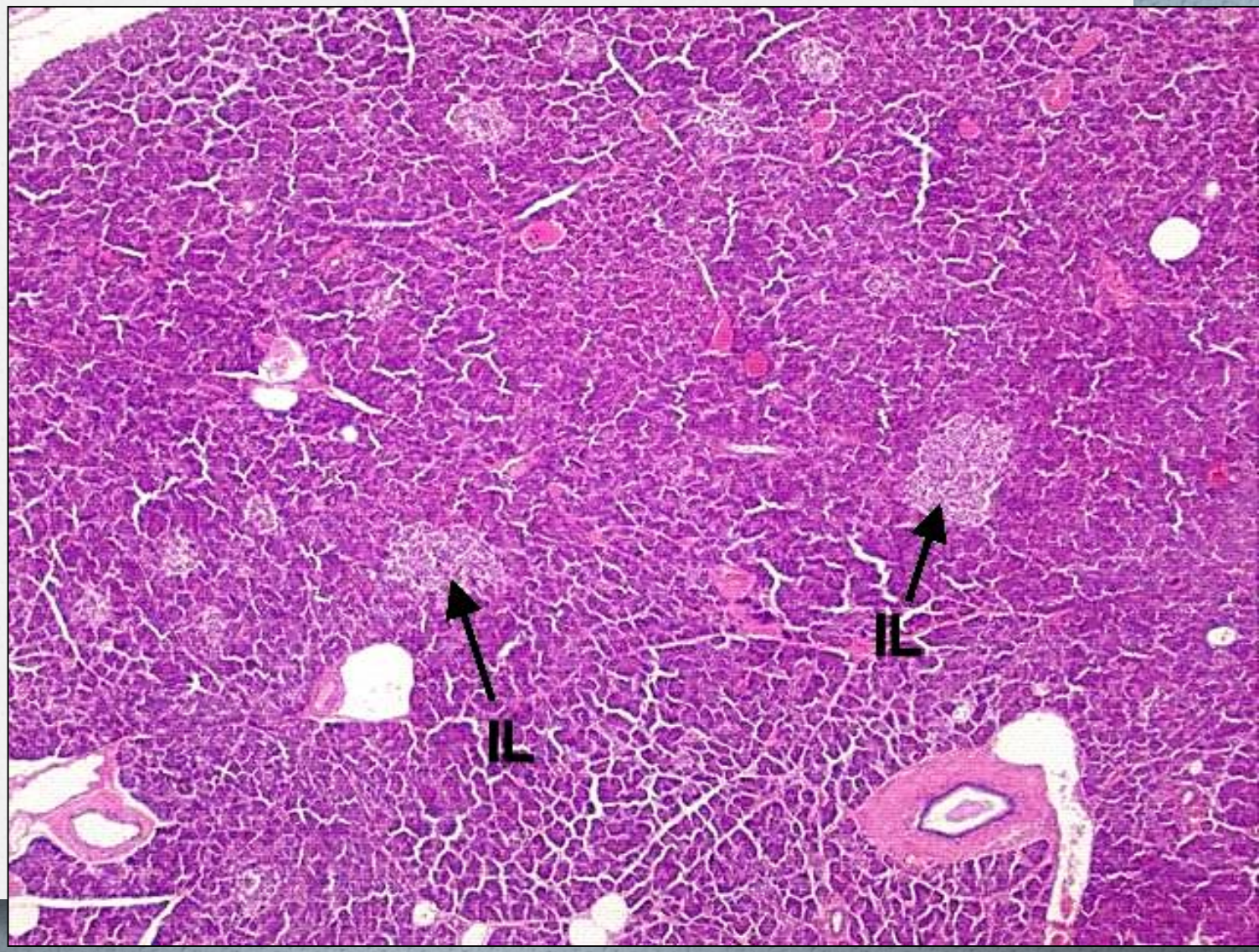
Describe the histological structure of ONE pancreatic acinar cell at the ultra structural (E.M)level.

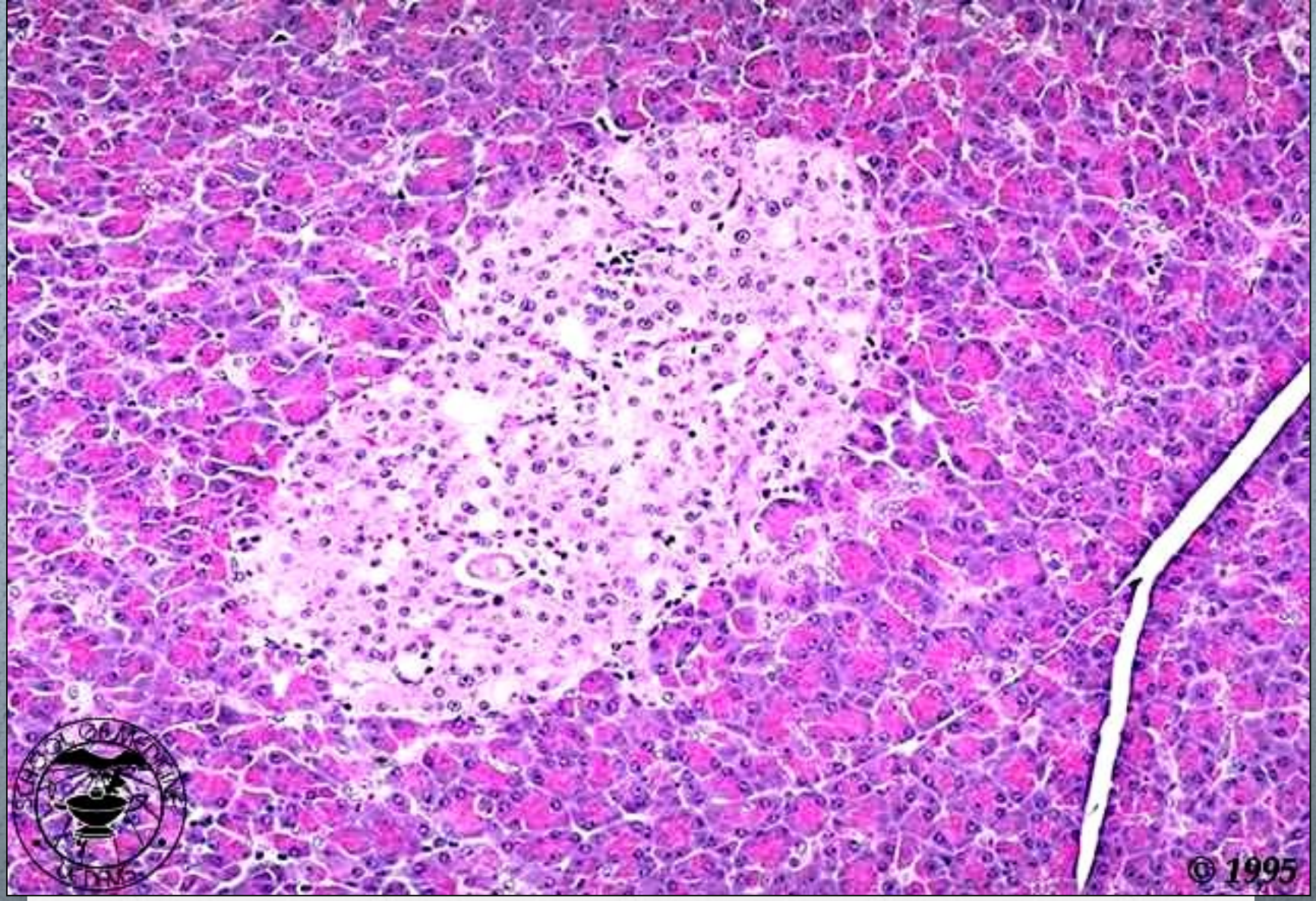


(II) Endocrine Portion: Islets of Langerhans

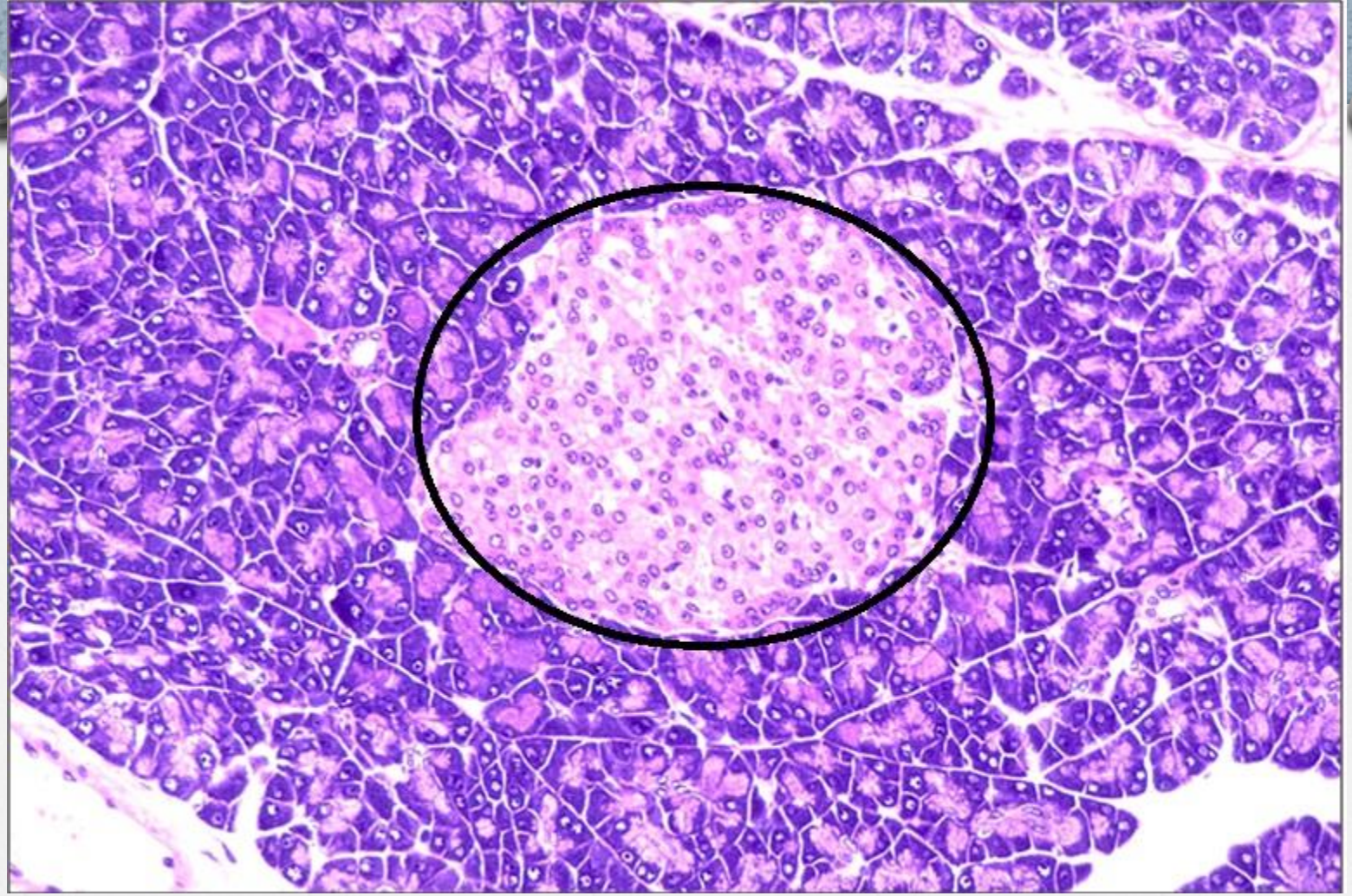
Scattered pale-staining clusters of cells (IL), among the darkly-stained pancreatic acini.

Secretory cells are surrounded by fenestrated blood capillaries.





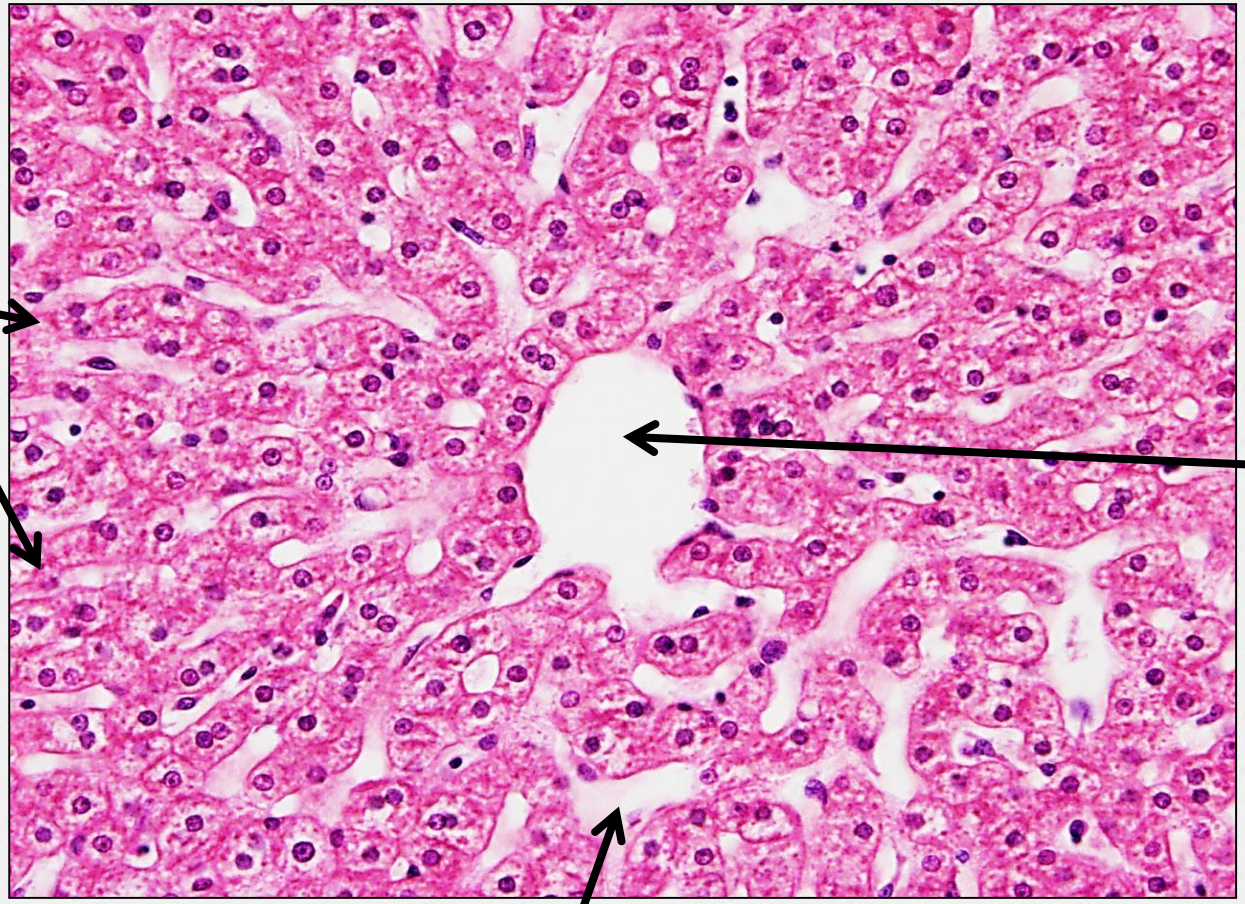
- List the 3 principal (major) cells constituting the islets of Langerhans. *(Beta – Alpha and Delta cells).*



How are the secretory cells of the islets supported?

Each islet is surrounded by reticular fibers, which enter the substance of the islet to support the cells and the fenestrated blood capillaries in-between.

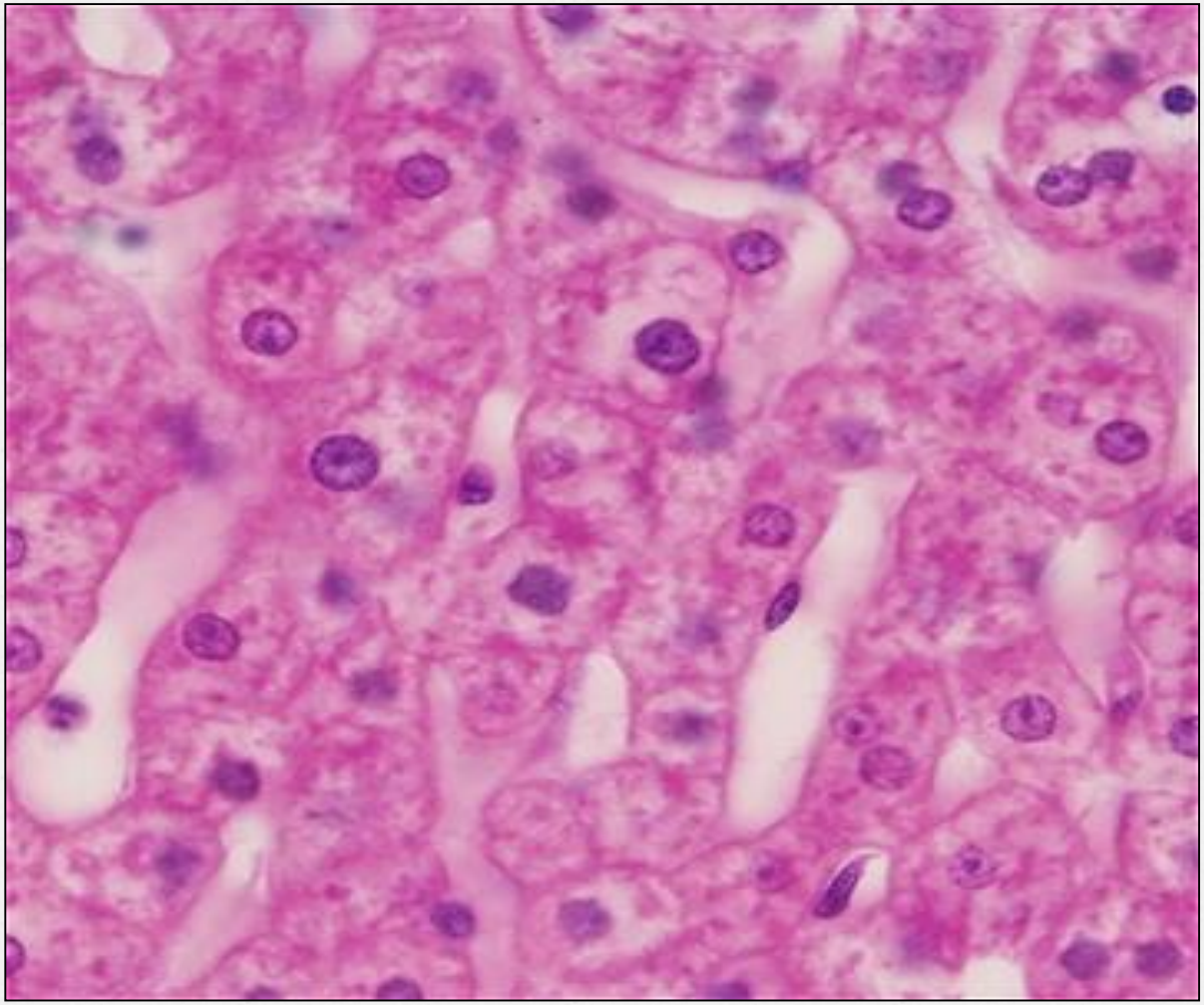
Liver



Cords of liver cells

Central vein

Liver sinusoids



Hepatocytes