

Trávicí systém II

jícen

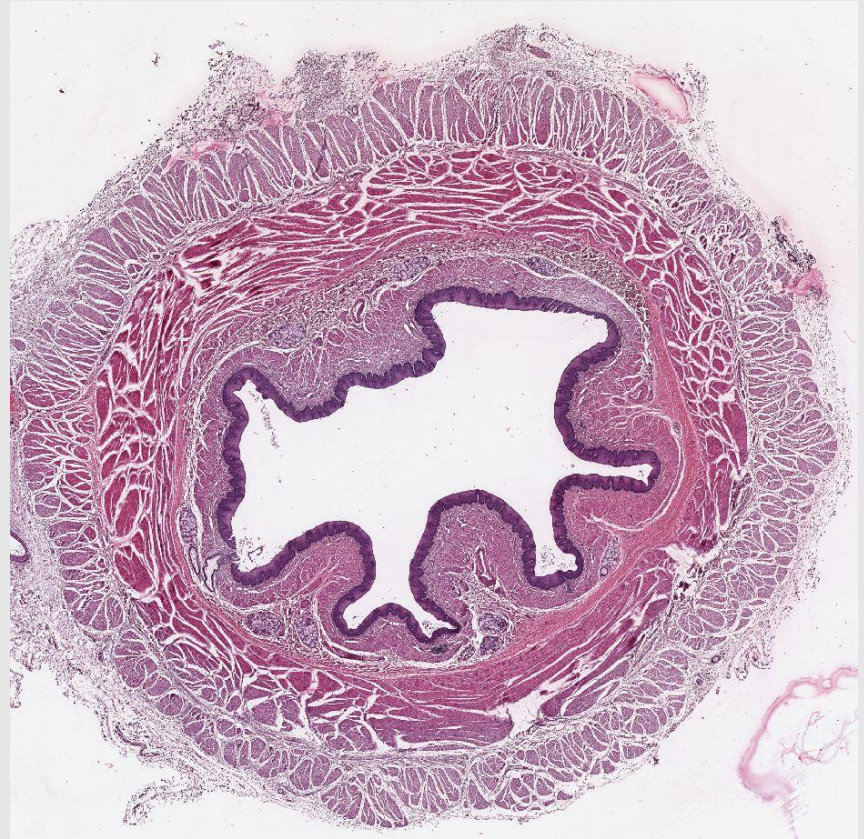
žaludek

tenké střevo

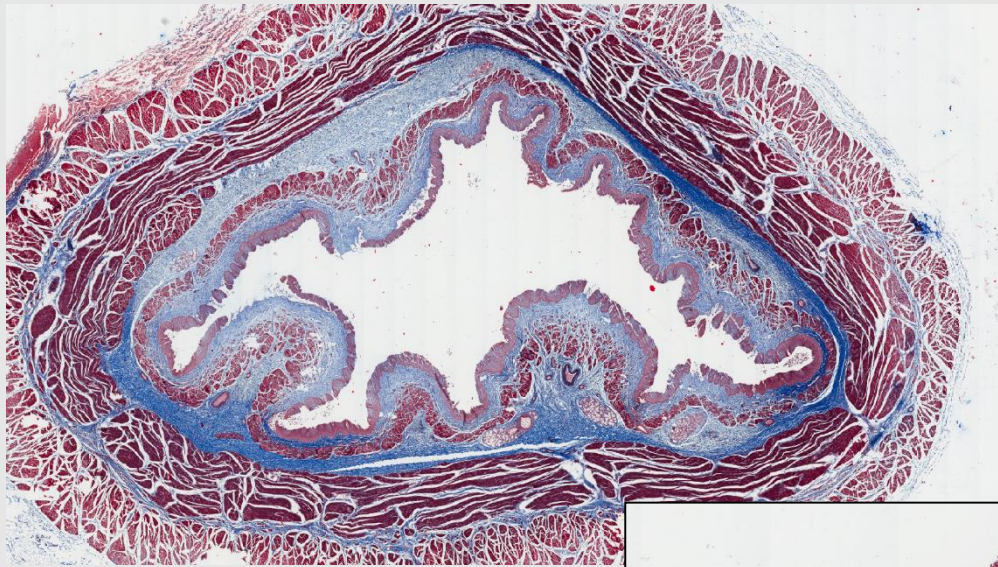
tlusté střevo

Obecná stavba (nejenom) trávicí trubice

- **tunica mucosa**
 - lamina epithelialis
 - lamina propria mucosae – řídké kolagenní nebo retikulární vazivo
 - lamina muscularis mucosae
- **tela submucosa** /řídké kolagenní vazivo + Meissnerův plexus/
- **tunica muscularis externa**
 - vnitřní cirkulární
 - Auerbachův plexus
 - zevní longitudinální
- **(tunica) adventitia** nebo **serosa** (řídké kolagenní vazivo bez nebo s mesotelem)

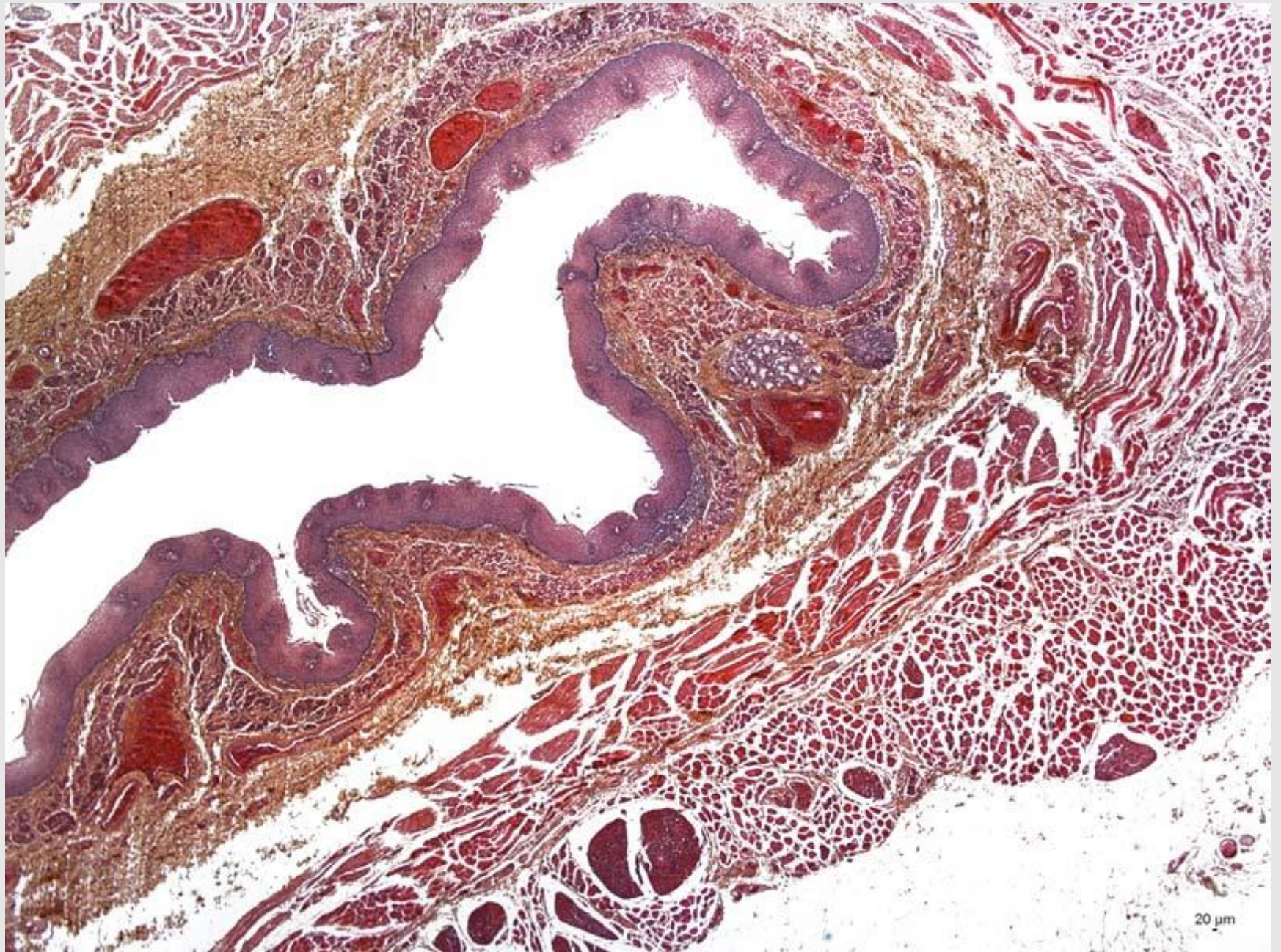


Jícen (oesophagus) - AZAN

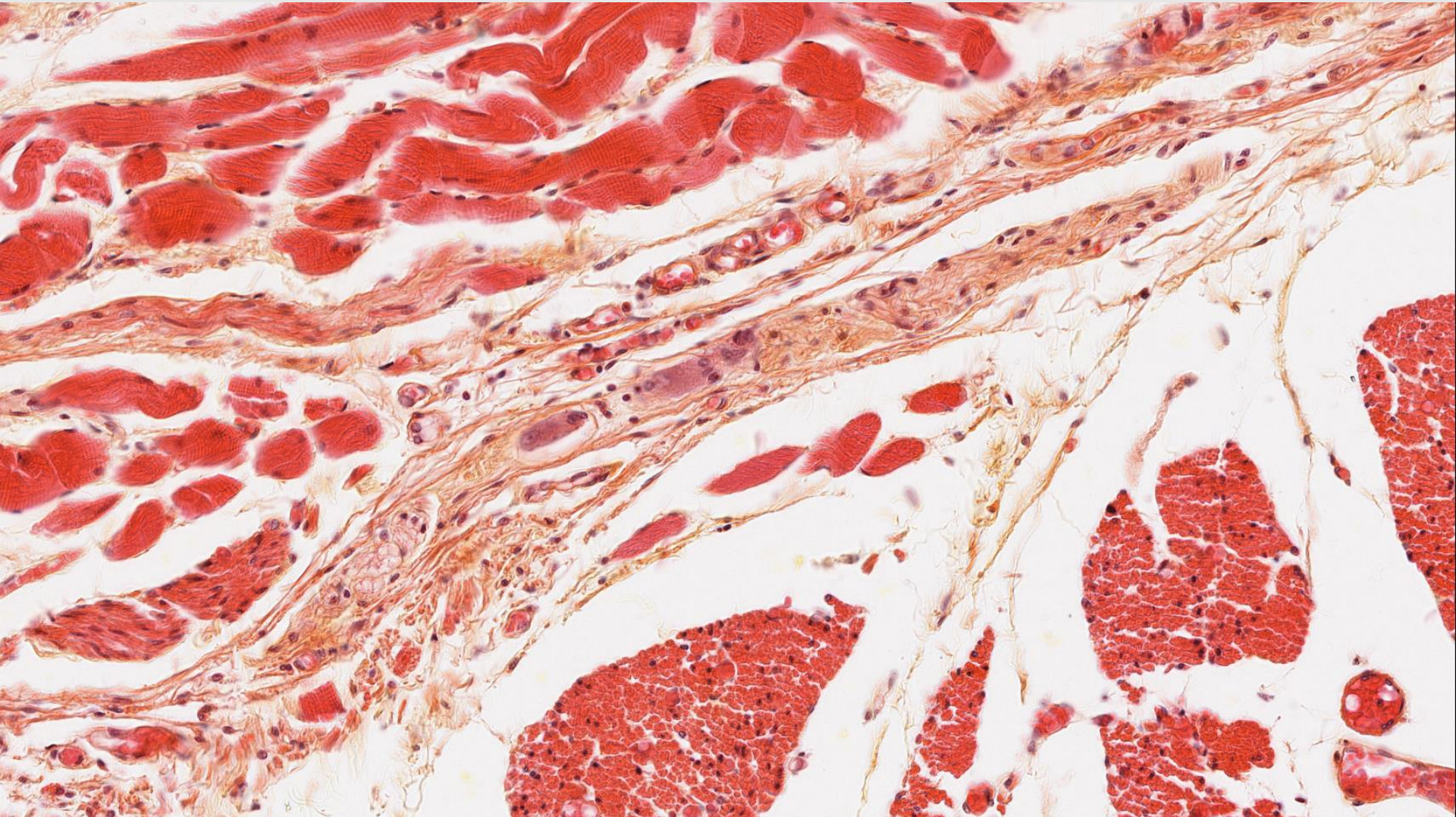


gll. oesophageae

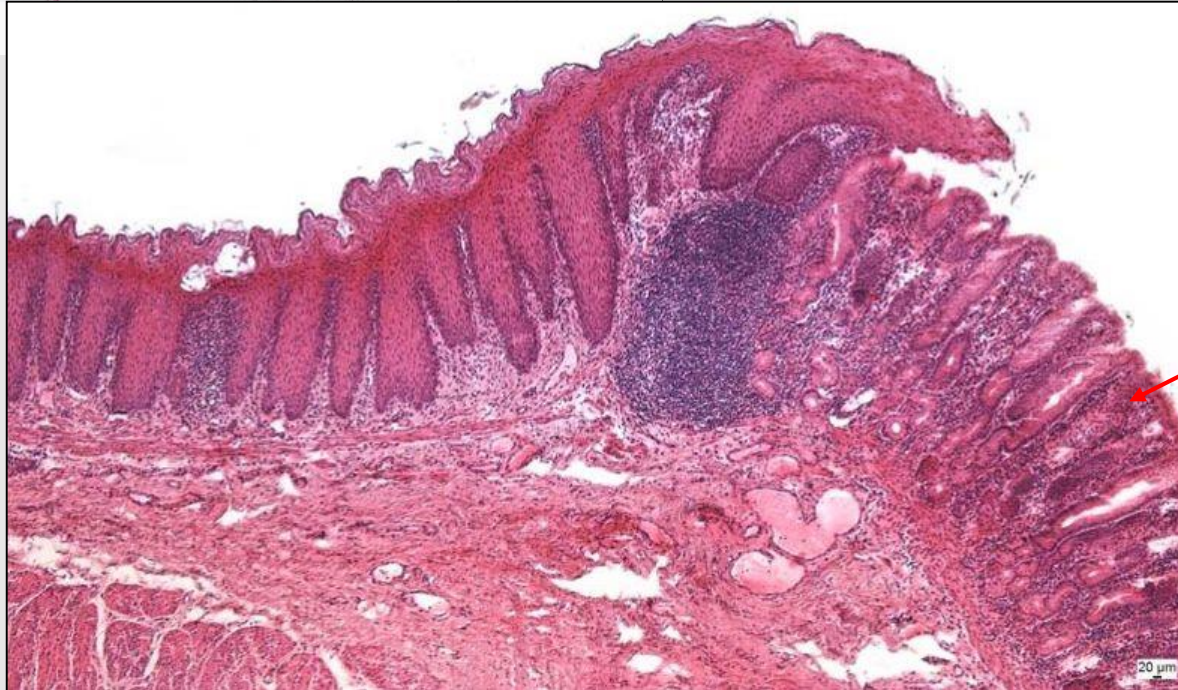
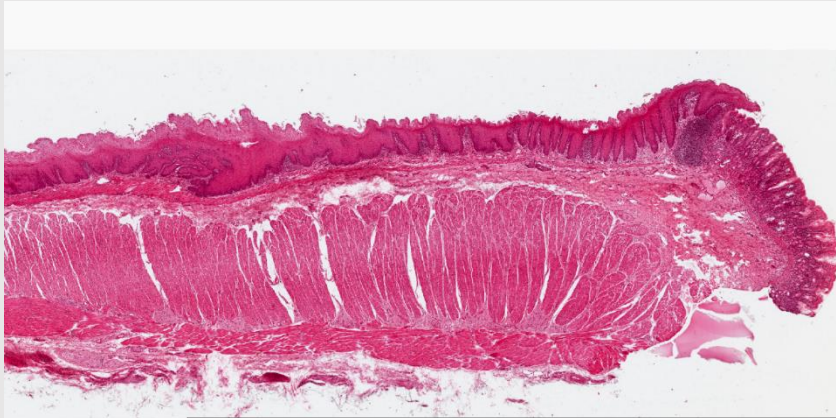
Jícen (oesophagus) - HEŠ



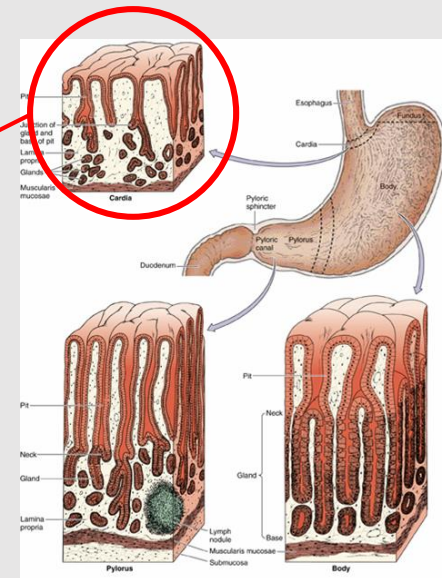
Jícen – plexus myentericus Auerbachi, tunica muscularis externa (typ svaloviny)



Jícen a žaludek

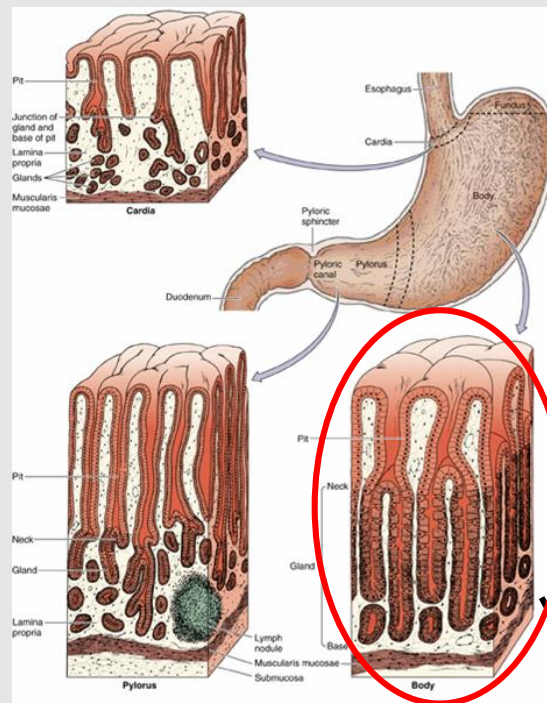


cardia



Žaludek /gaster, ventriculus/

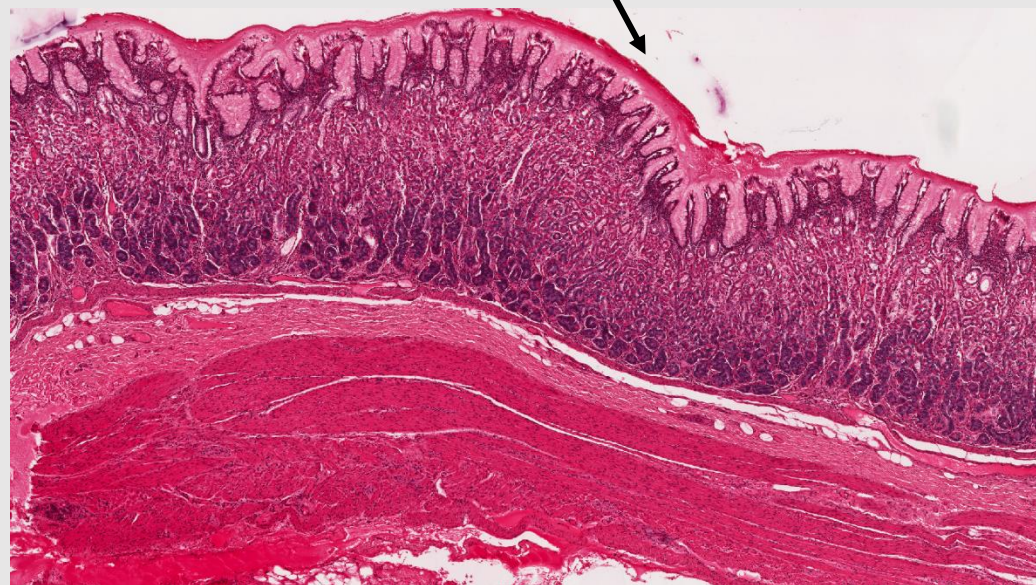
- základní části
 - cardia
 - fundus ventriculi
 - corpus
 - pylorus
- stěna žaludku
 - **sliznice**
 - I. epithelialis
 - I. propria – tlustá s žaludečními žlázkami
 - I. muscularis
 - tela submucosa
 - tunica muscularis
 - 3 vrstvy /šikmá, cirkulární, longitudinální/
 - serosa



rugae gastricae

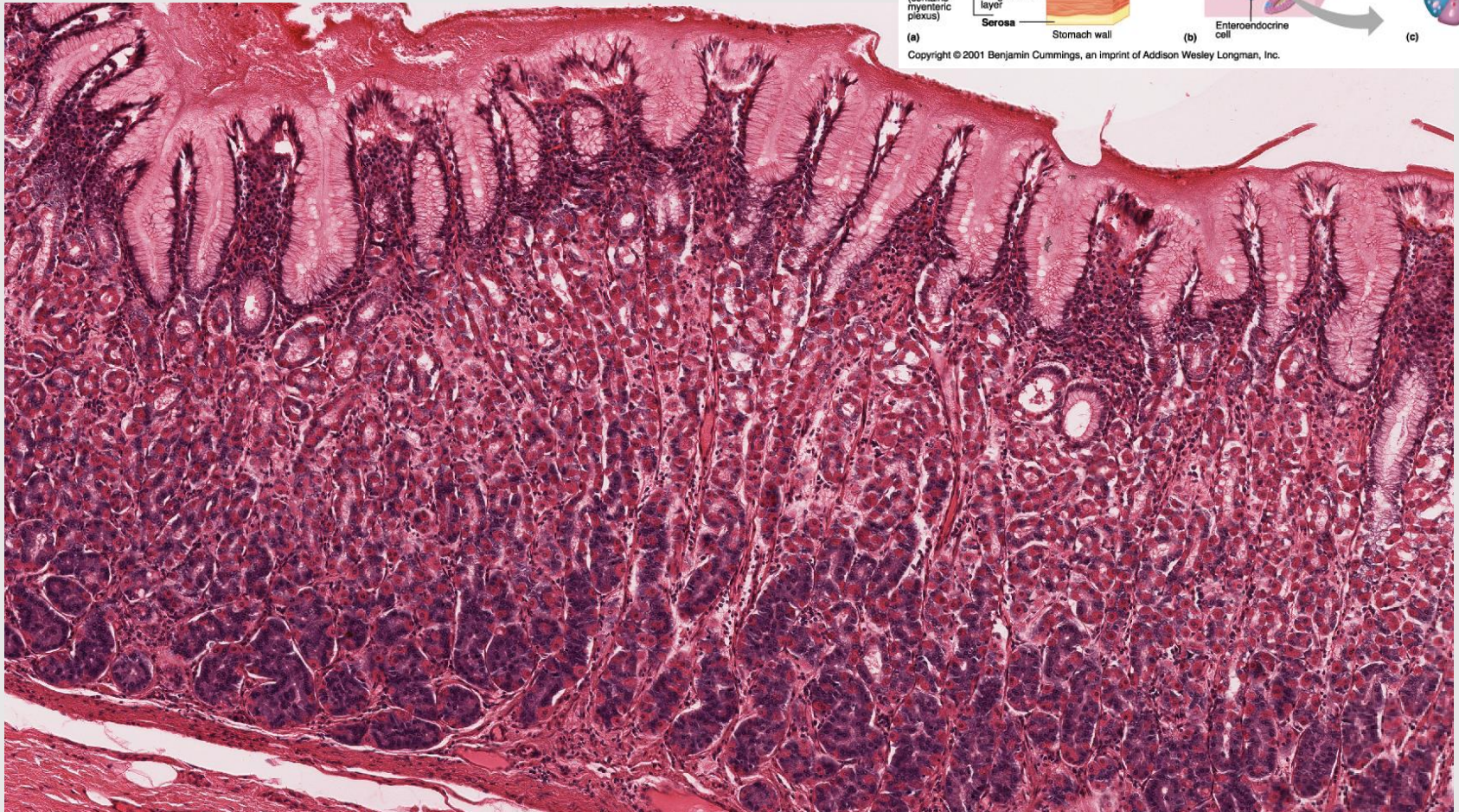
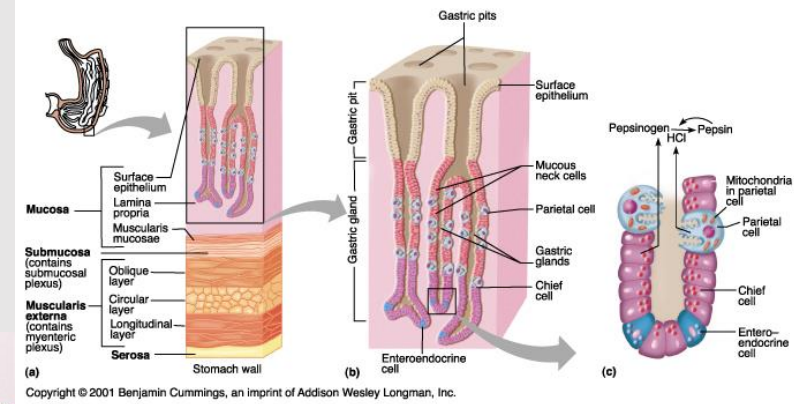
sliznice

- cardia
- fundus et corpus
- pylorus



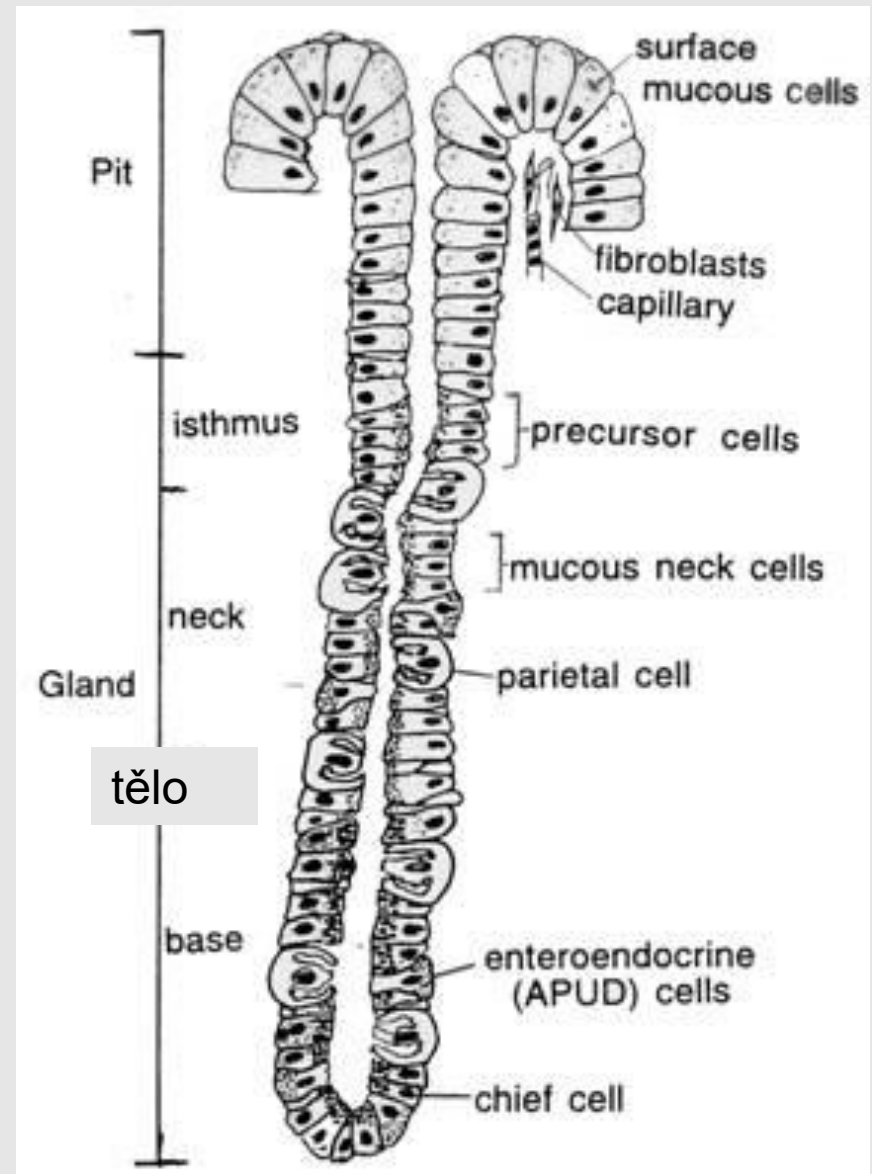
Žaludek - fundus a corpus ventriculi

zásobní řasy /rugae/,
areae gastricae (2-6 mm²)
a foveolae gastricae

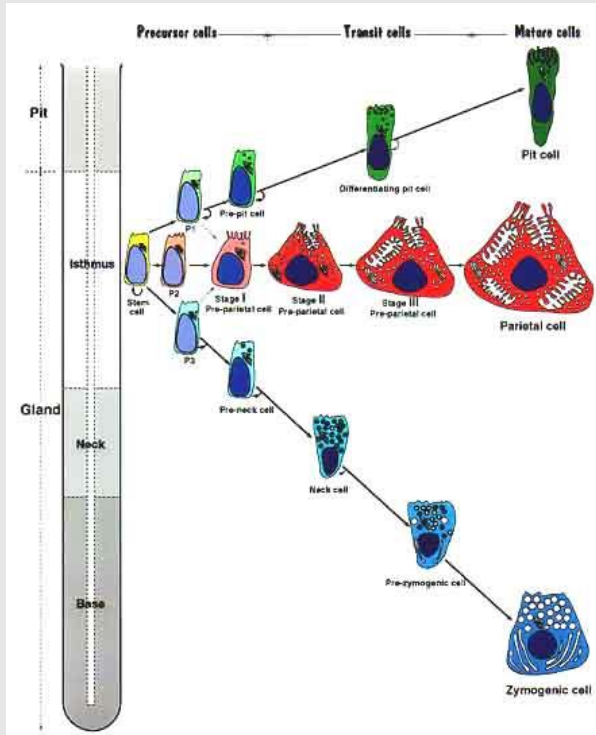


Žaludeční žlázy

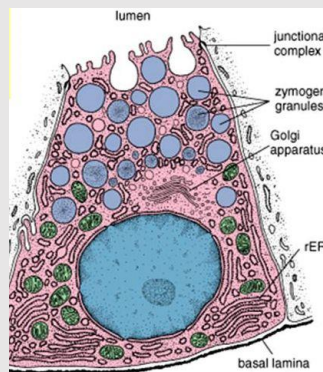
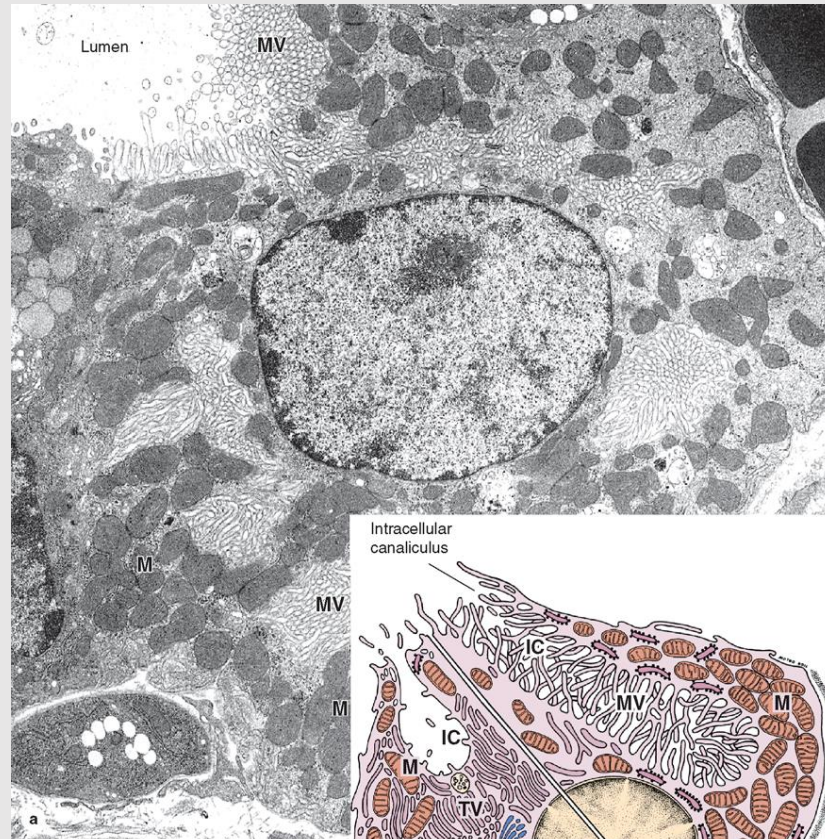
- ***Gll. cardiacae***
 - rozvětvené tubulózní žlázy mucinózní
- ***Gll gastricae propriae***
 - 2 - 4 do jedné žaludeční jamky
 - jednoduché tubulózní
 - výstelku tvoří tyto buňky
 - hlavní /pepsinogenní/
 - **parietální, krycí** /HCl/, produkují také „vnitřní faktor“
 - buňky krčků
 - endokrinní buňky
 - nediferencované buňky
- ***Gll. pyloricae***
 - rozvětvené tubulózní žlázy mucinózní



Žaludeční žlázy - gl. gastricae propriae

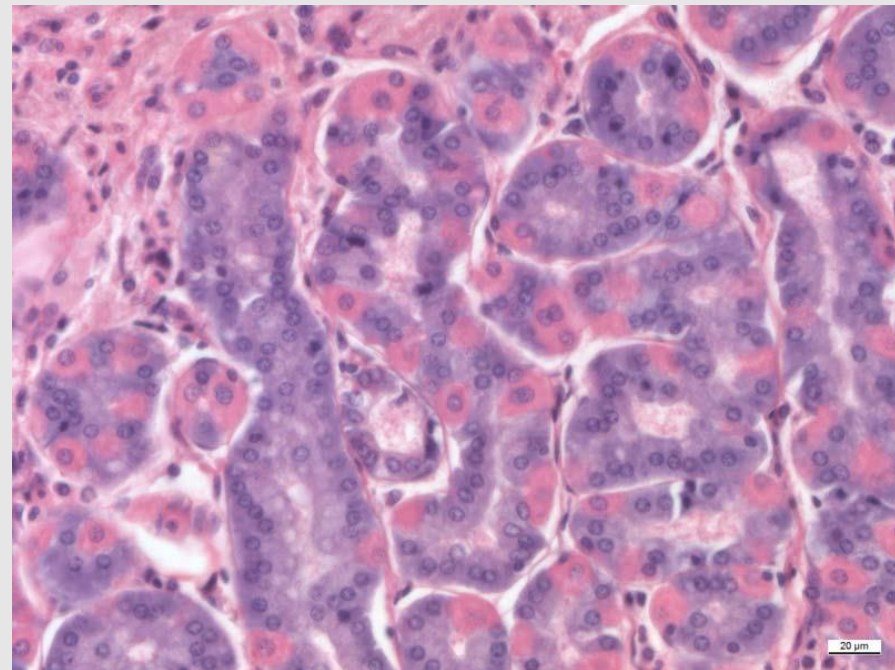


buňky krycí

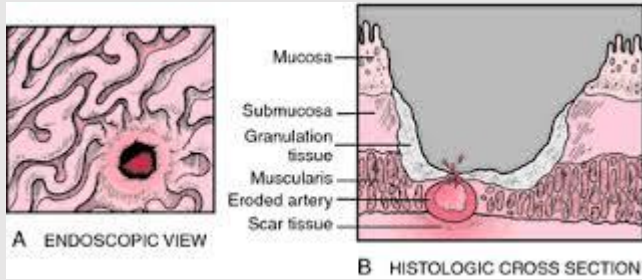


buňky hlavní

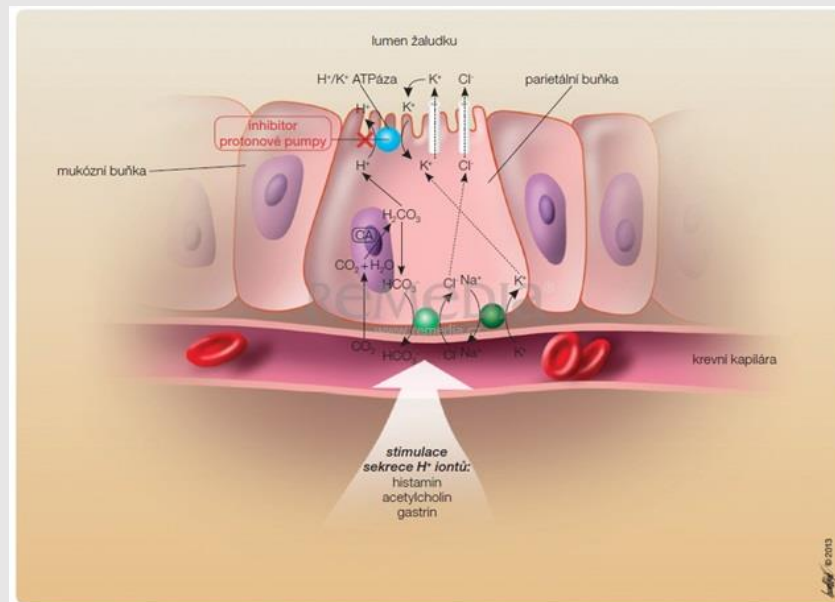
Žaludeční žlázy - gll. gastricae propriae



Klinika-vředová choroba gastroduodena



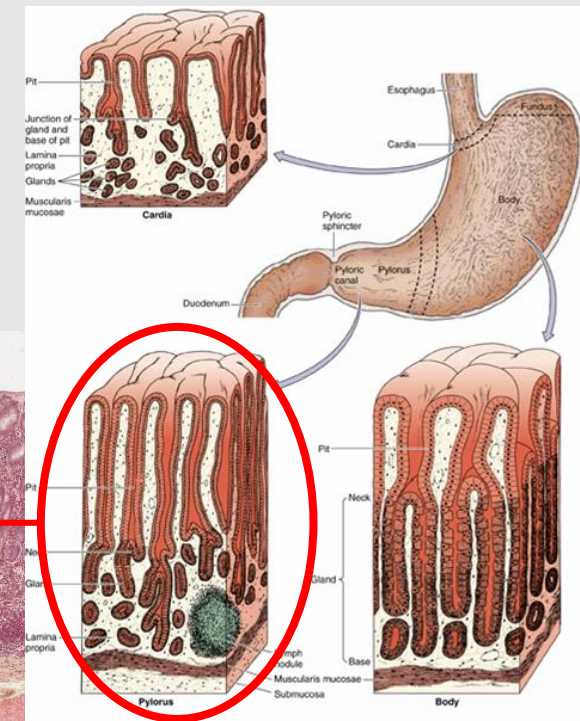
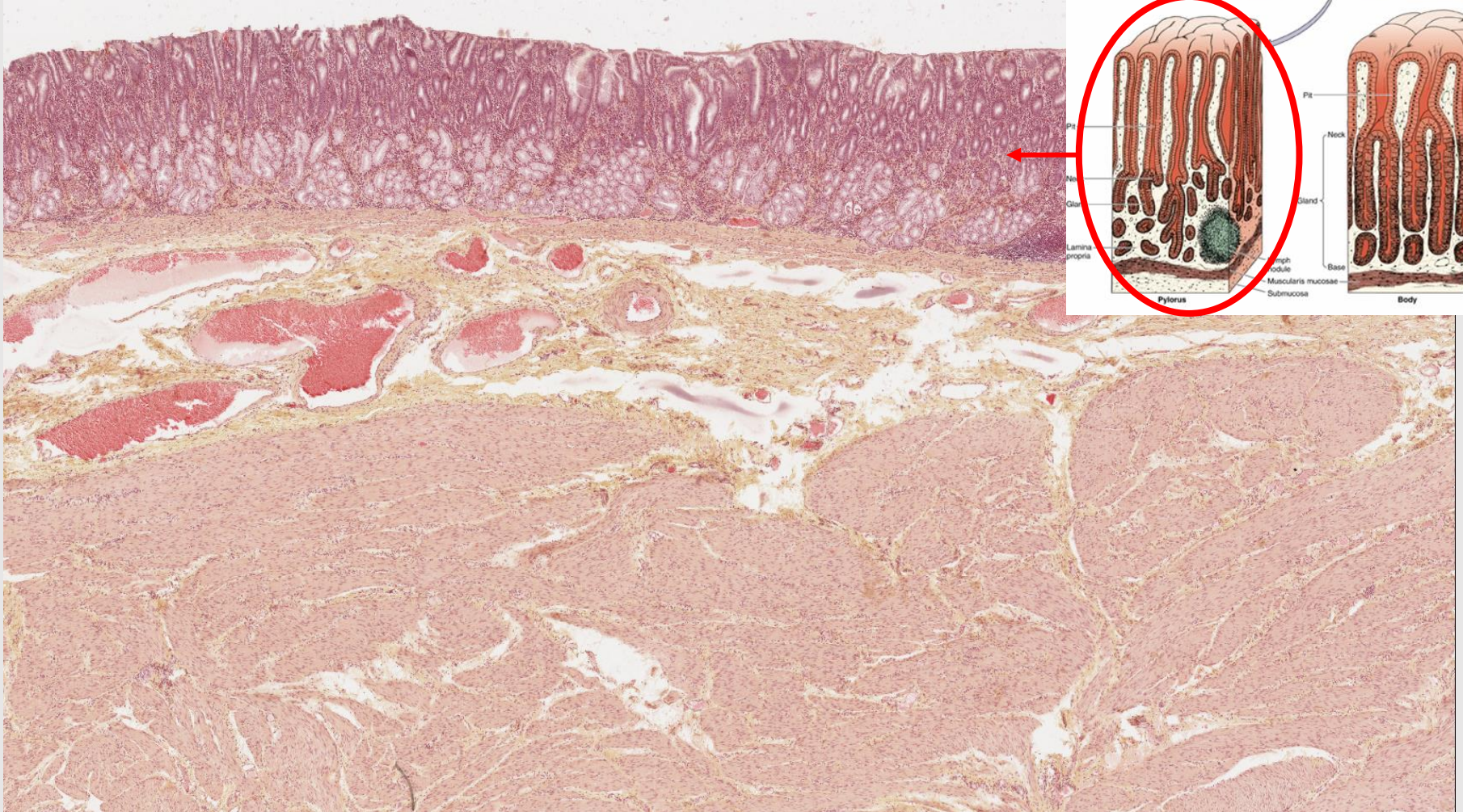
Léčba-inhibitory protonové pumpy



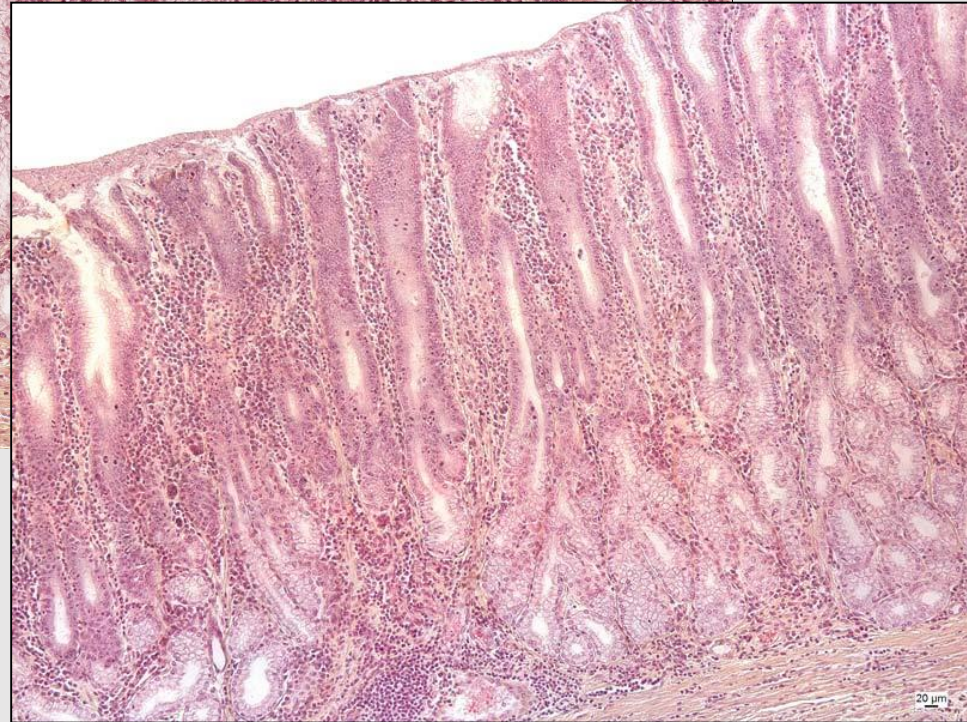
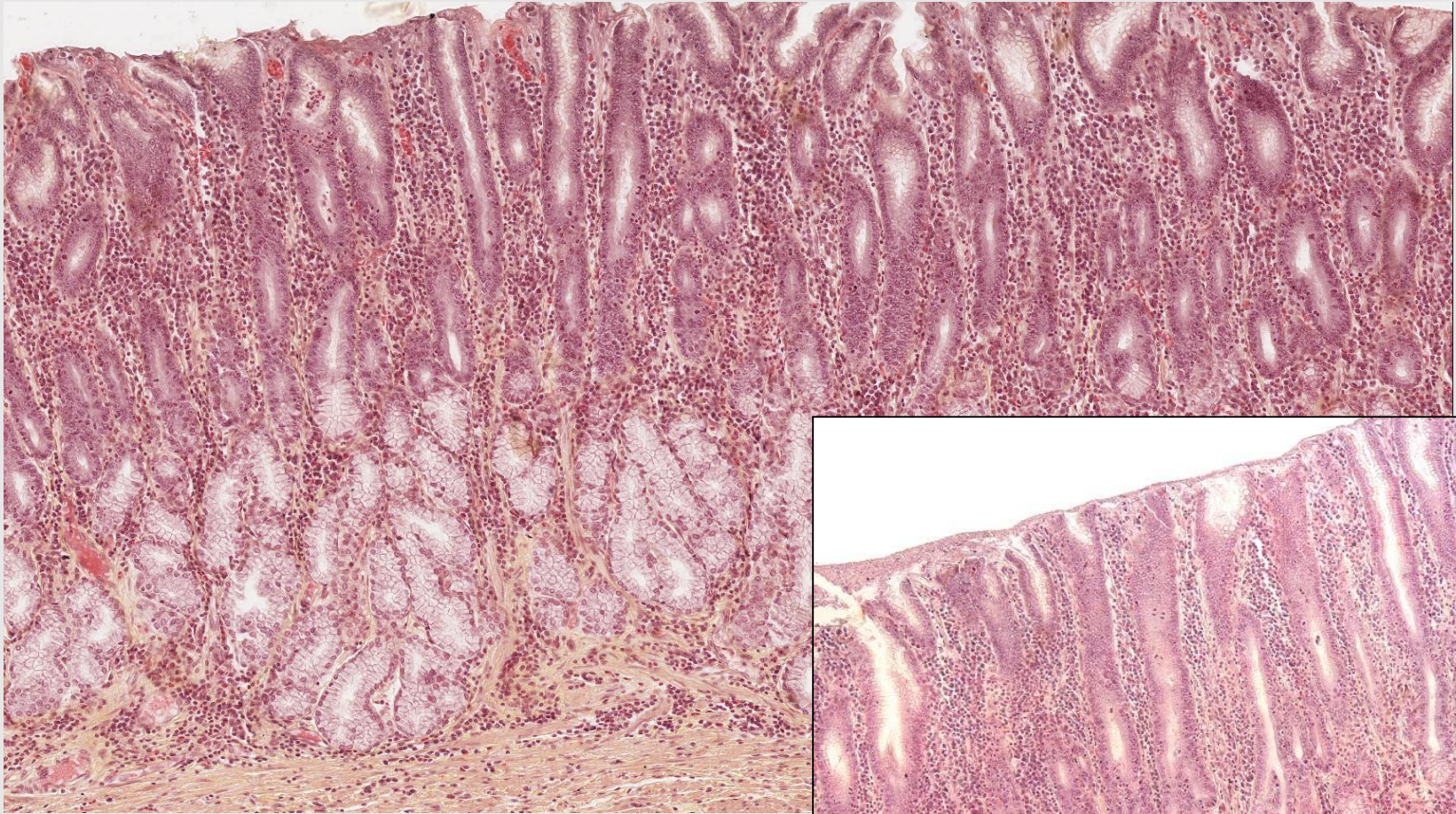
Žaludek - pylorus

Gll. pyloricae

rozvětvené tubulózní žlázy mucinózní

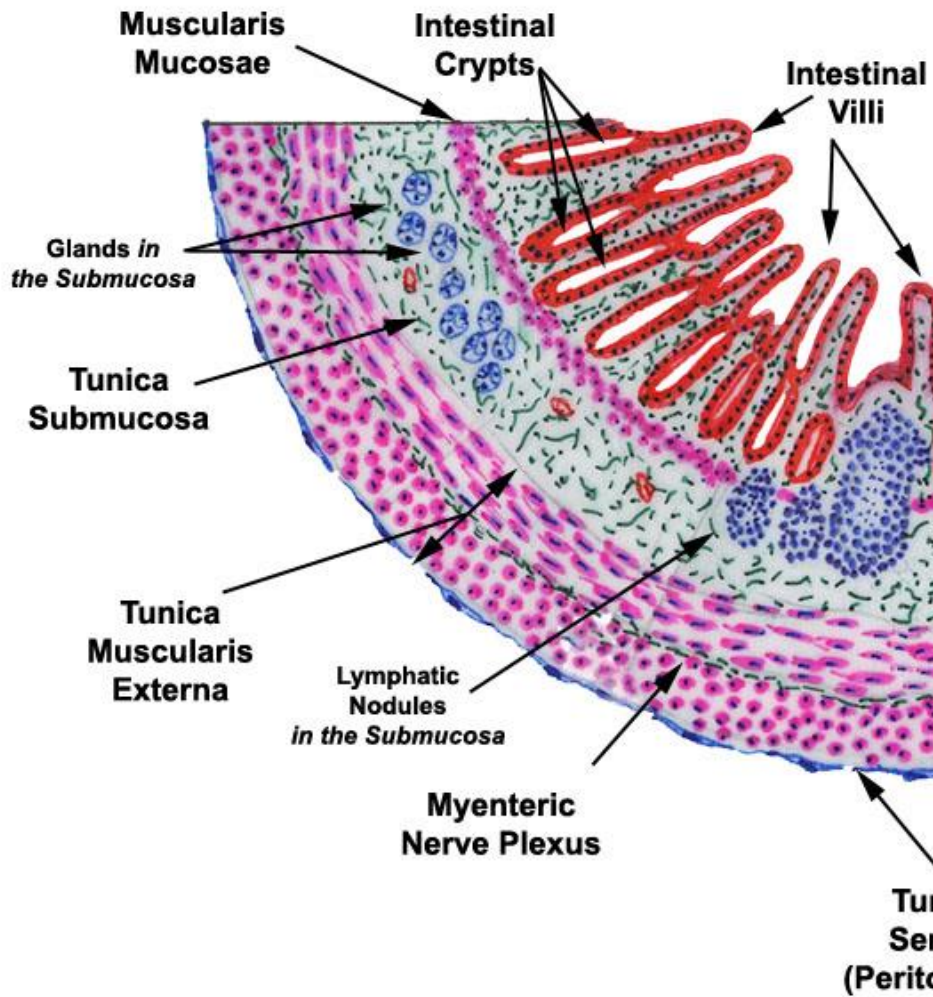


Žaludek - pylorus

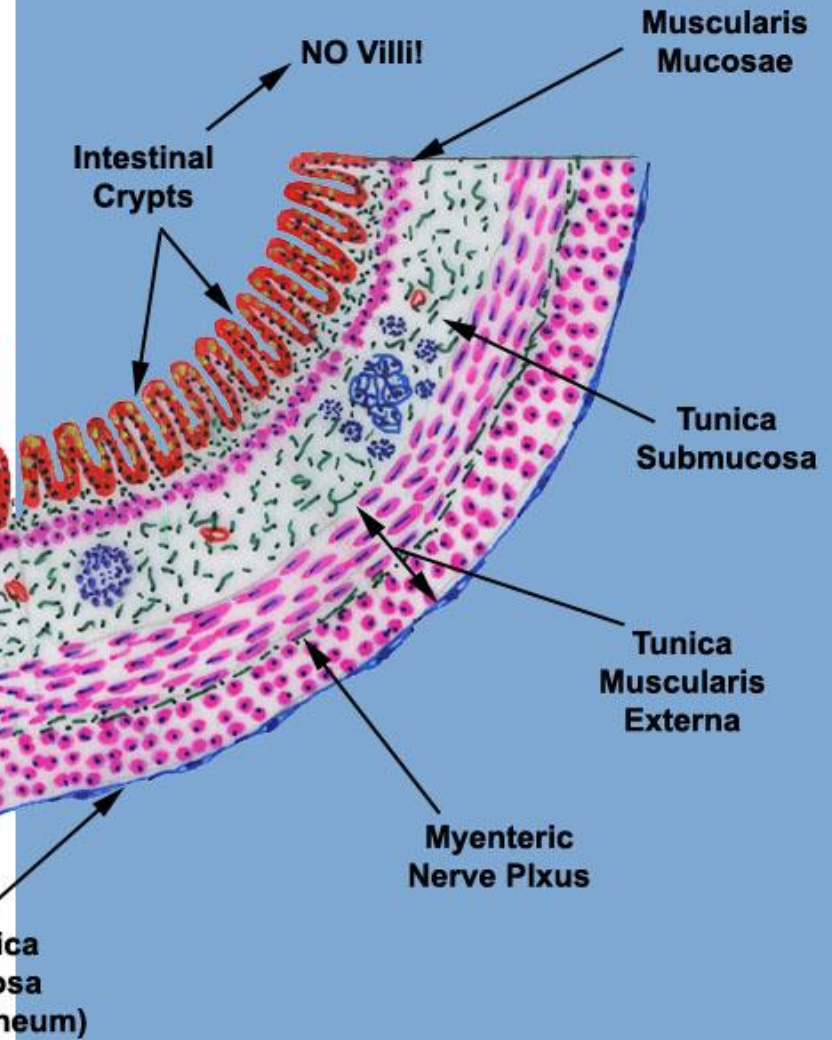


Obečná stavba trávicí trubice

SMALL INTESTINE



LARGE INTESTINE



5-7 m

Intestinum tenue

plicae circulares /Kerckringi/-3x → villi intestinales /1 mm/-10x → mikroklky /1 μ m/-20x

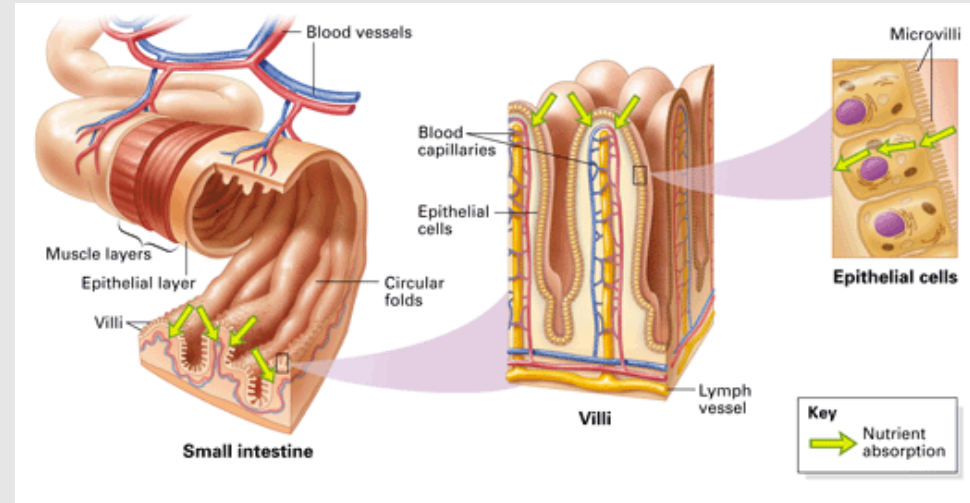
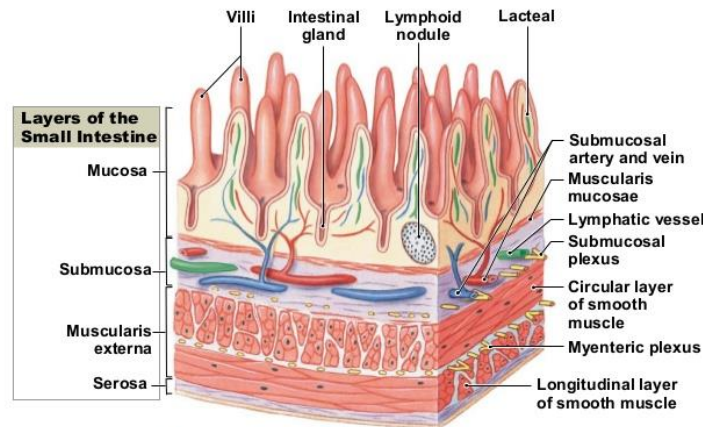


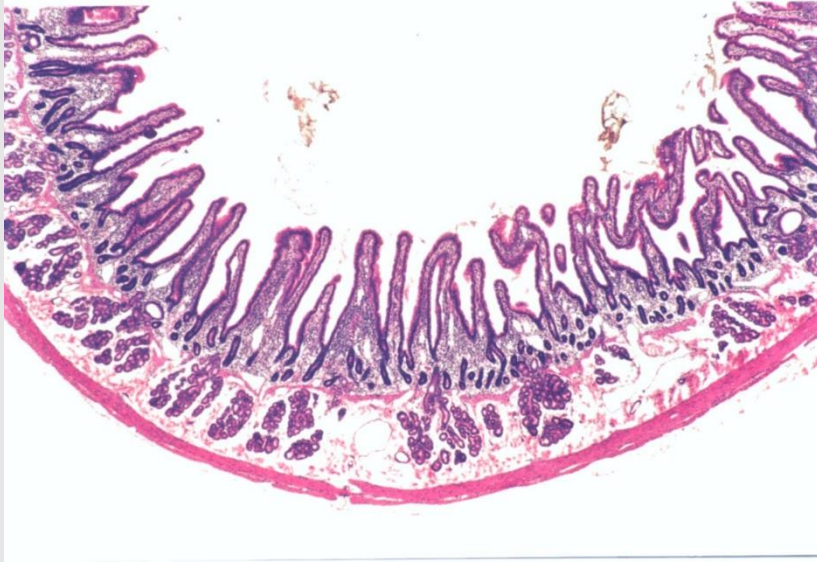
Figure 16-11b The Intestinal Wall.



b The organization of the intestinal wall

Intestinum tenue

duodenum



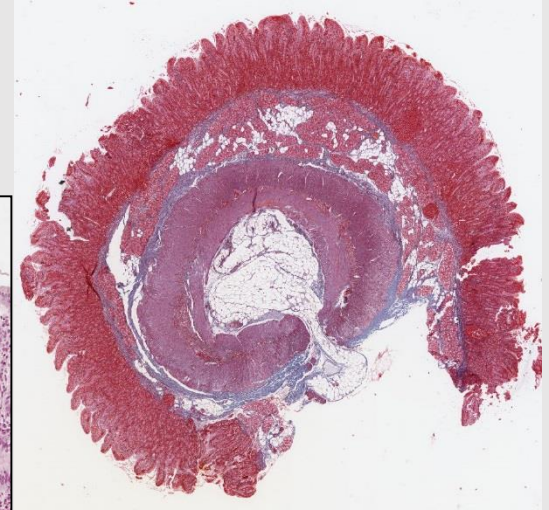
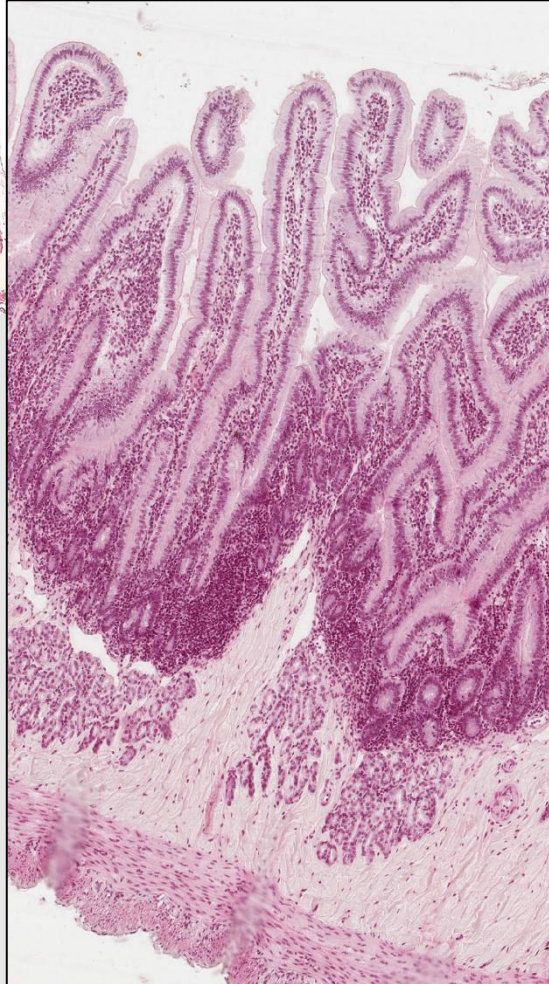
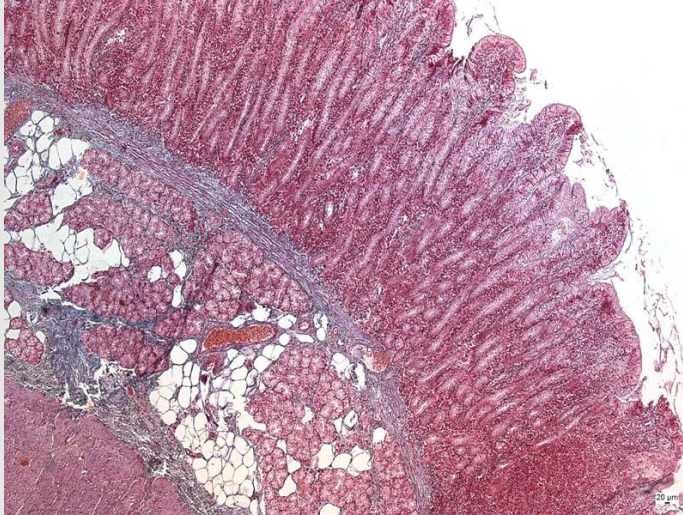
plicae circulares
Kerckringi

2.5-5 cm od
pyloru, stálé

jejunum



Duodenum



submucosa: *Brunnerovy žlázy* – mucinózní a alkalické, proč???

Sliznice tenkého střeva

→ epitel

• enterocyty

- 30 μ m cylindrické buňky s mikrokly /žíhaná kutikula/ + glykokalyx /s enzymy/
- životnost 1-3 dny

• pohárkové buňky

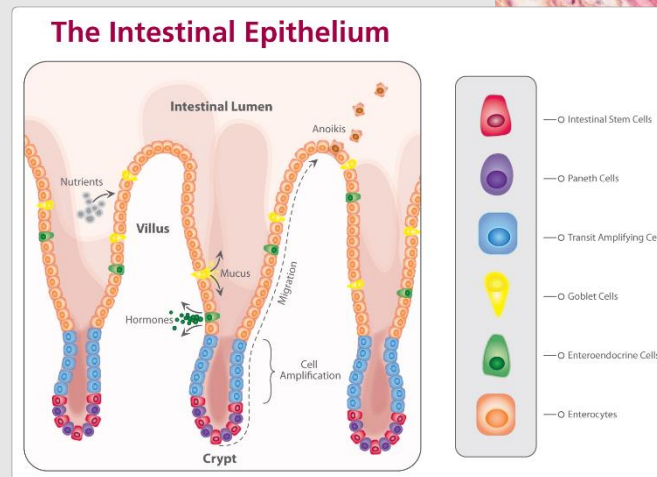
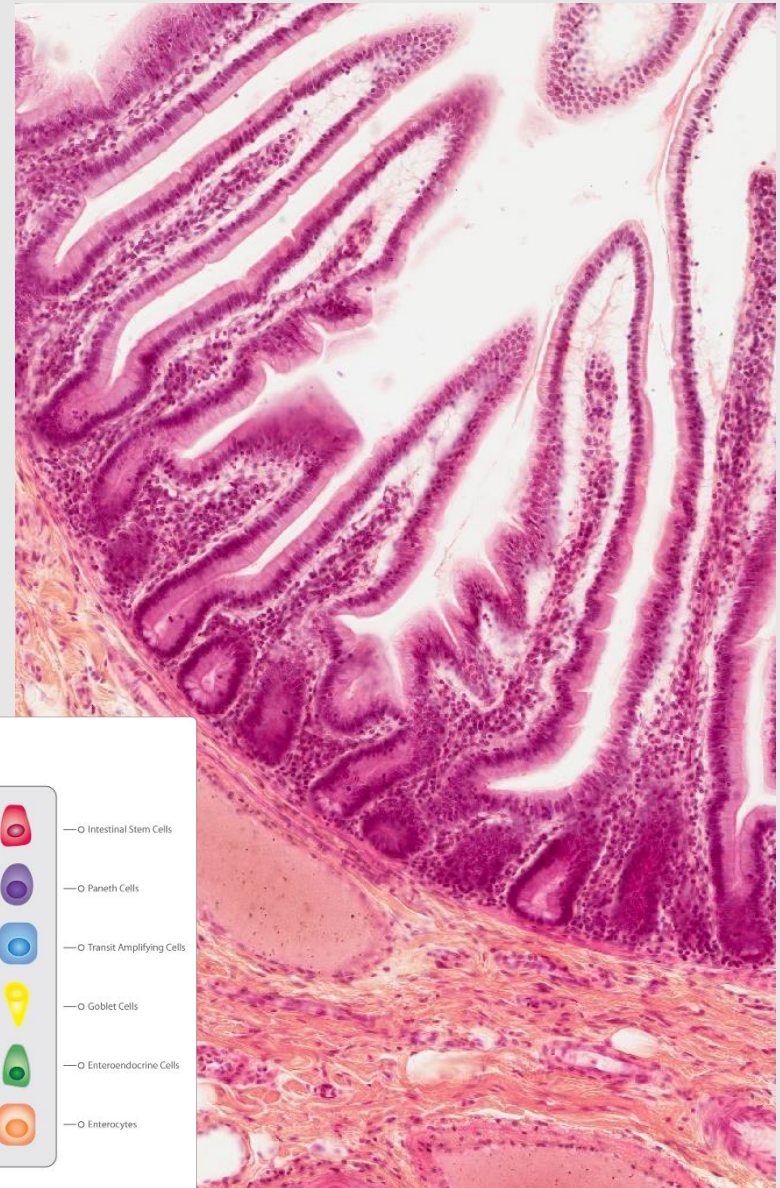
• Panethovy buňky

• endokrinní buňky

- gastrin, sekretin, cholecystokinin,...

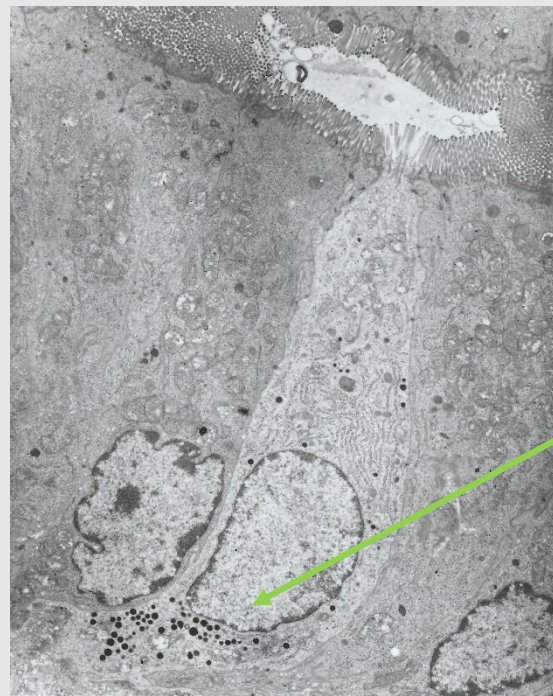
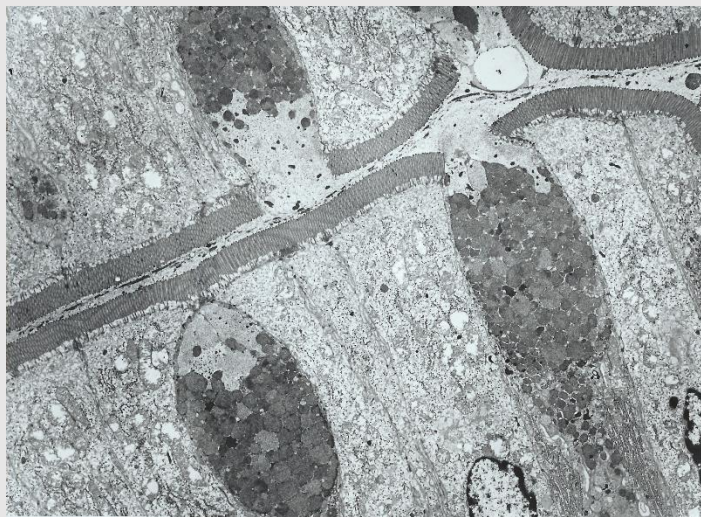
→ slizniční vazivo

→ slizniční svalovina

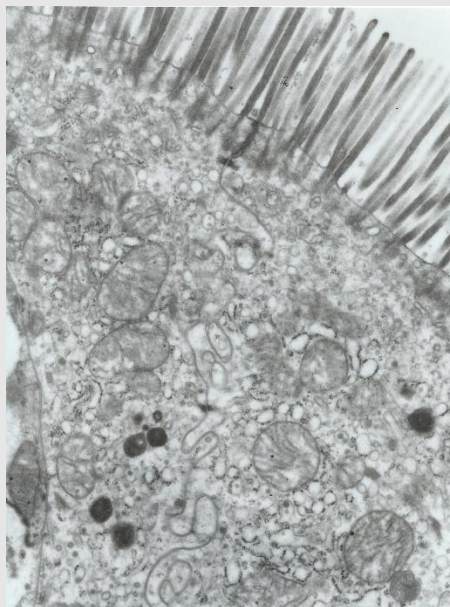


okolo klků, při jejich úpatí, je 2-7 otvůrků, kterými na slizniční povrch ústí Lieberkühnovy krypty /gll. intestinales/

Sliznice tenkého střeva

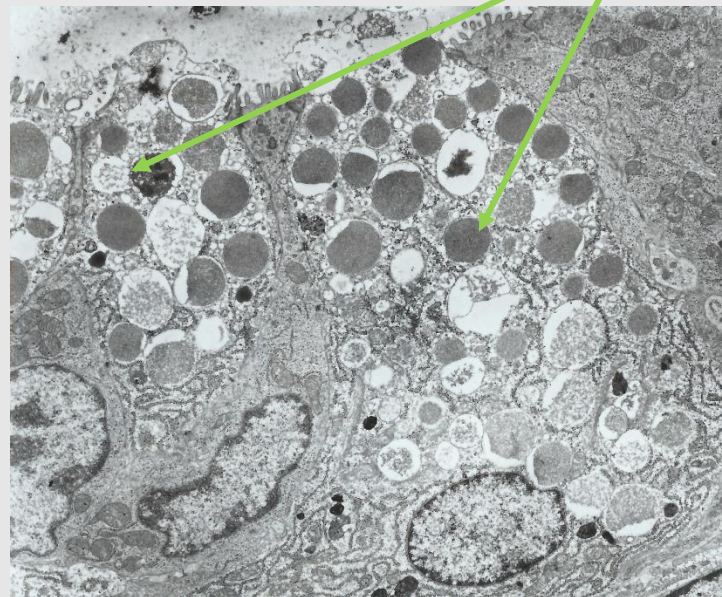


enteroendokrinní



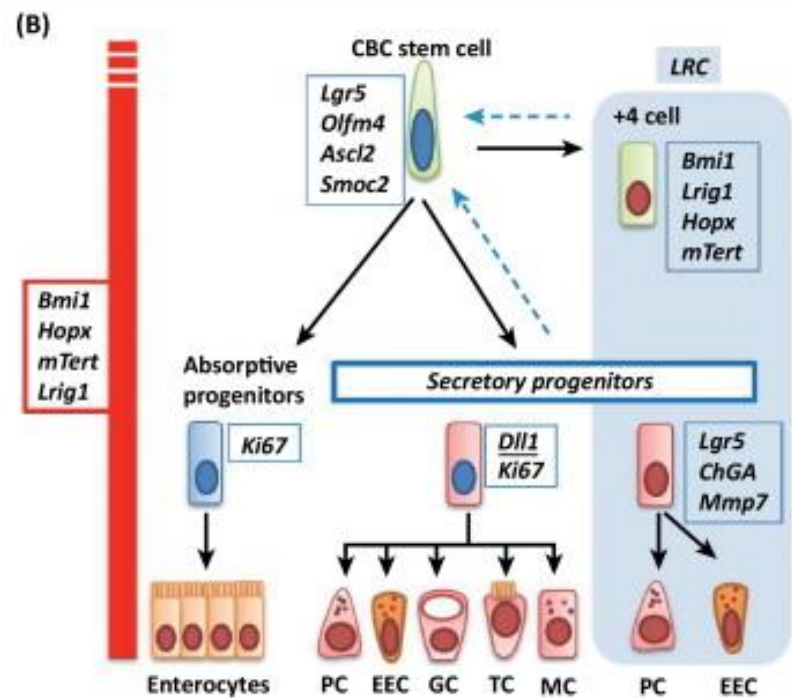
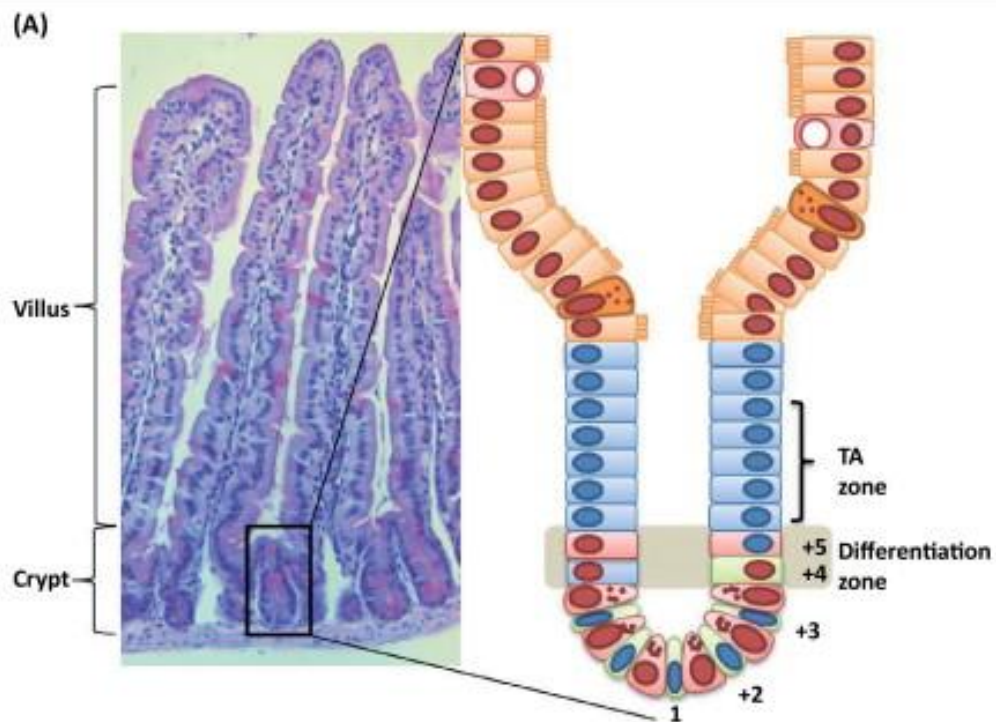
pohárkové buňky
a enterocyty

enterocyty -
kartáčový lem

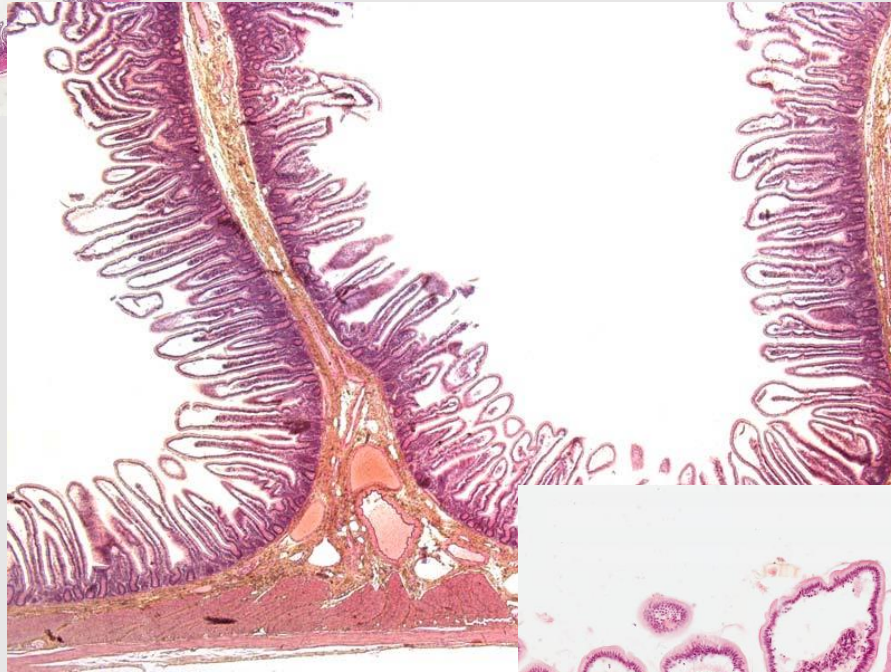


Panethovy
buňky

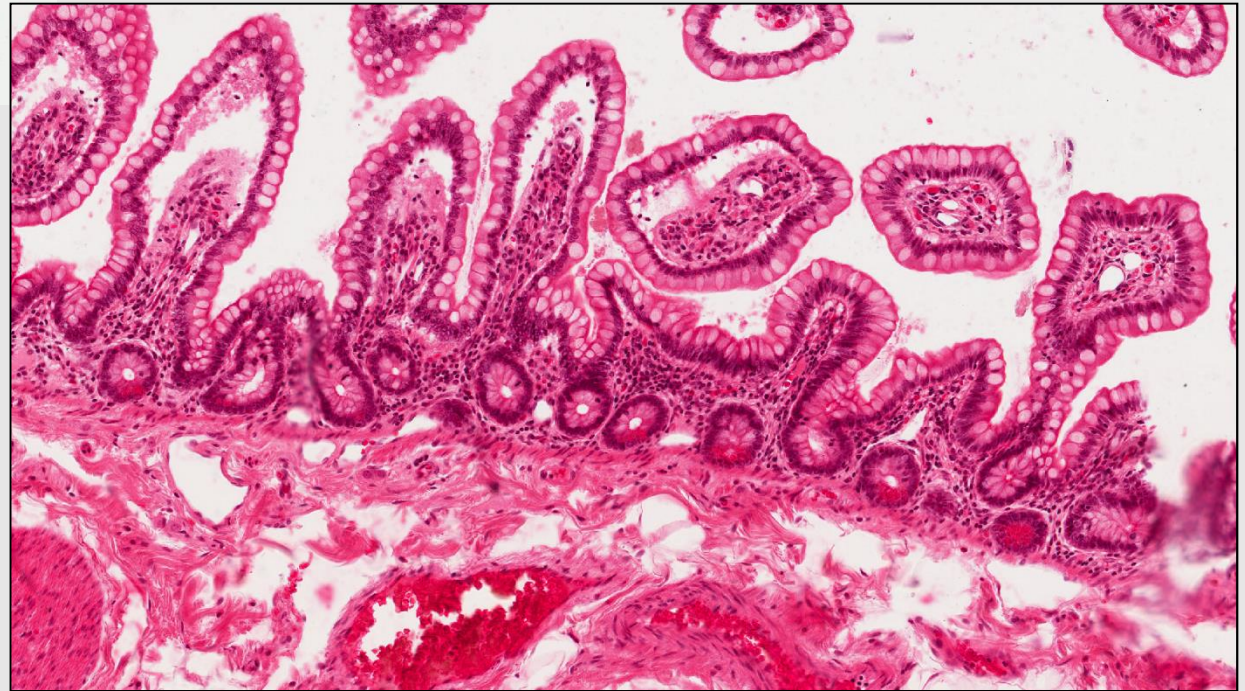
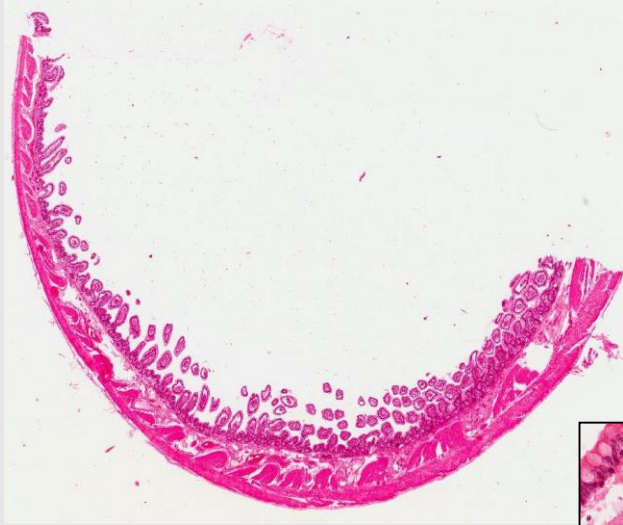
Sliznice tenkého střeva



Intestinum tenue - jejunum



Intestinum tenue - ileum



MALT - GALT

Gut-associated lymphoid tissue (GALT)

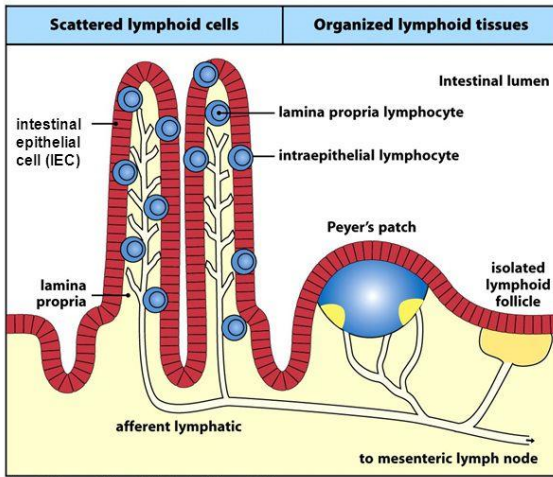
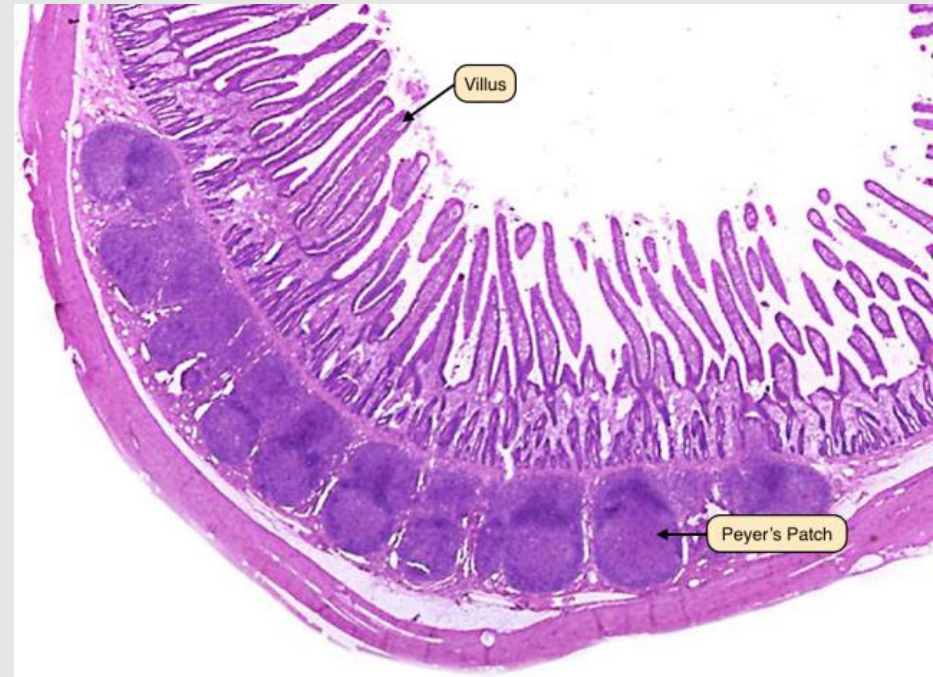
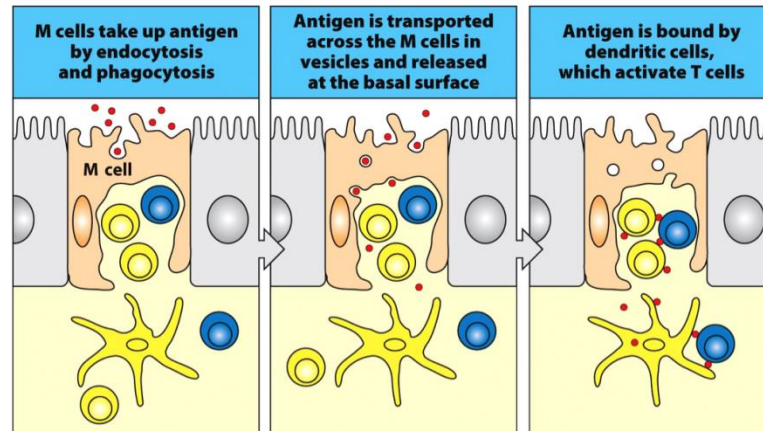


Figure 11-4 Immunobiology, 7ed. (© Garland Science 2008)

- GALT**
- Peyer's patches
 - appendix
 - isolated lymphoid follicles

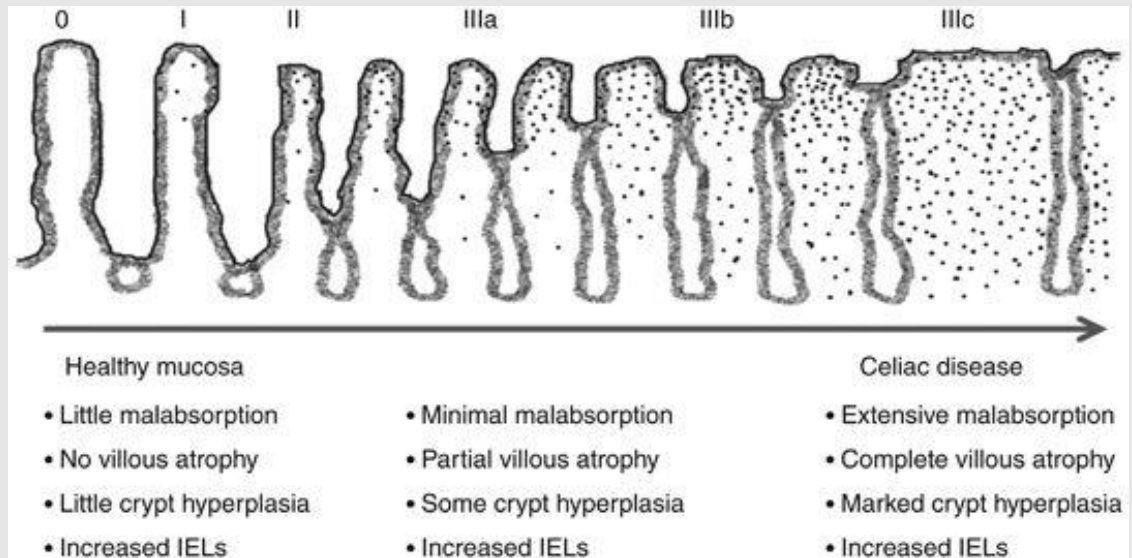
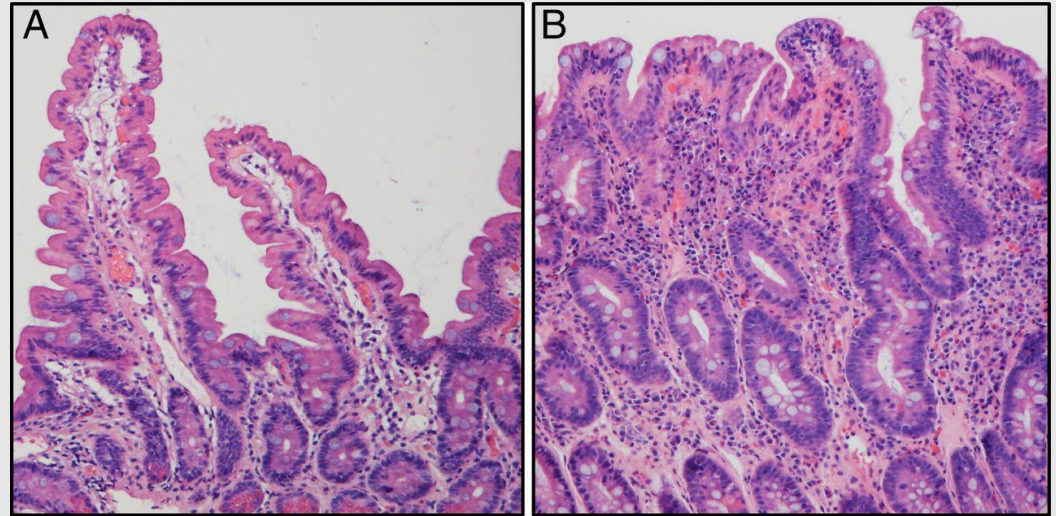
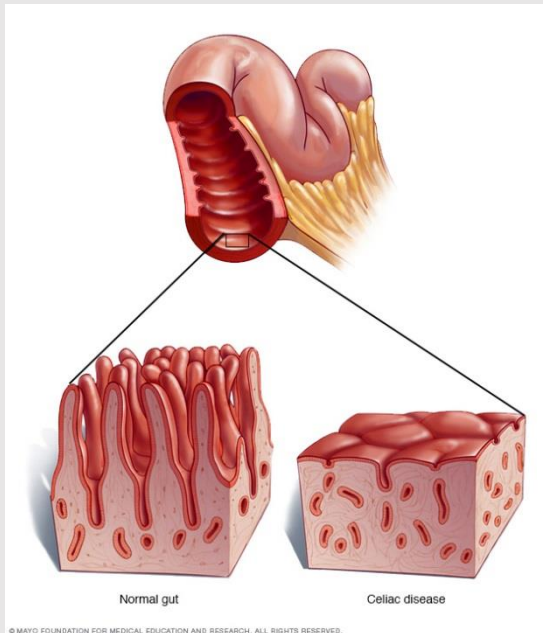


Antigen uptake and presentation by M cells



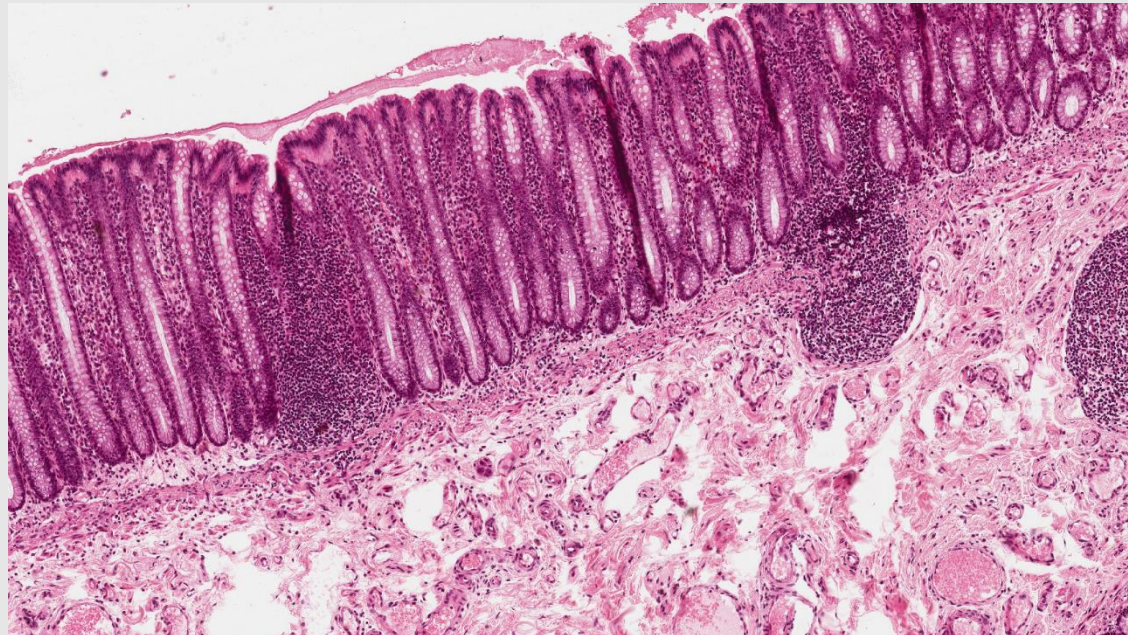
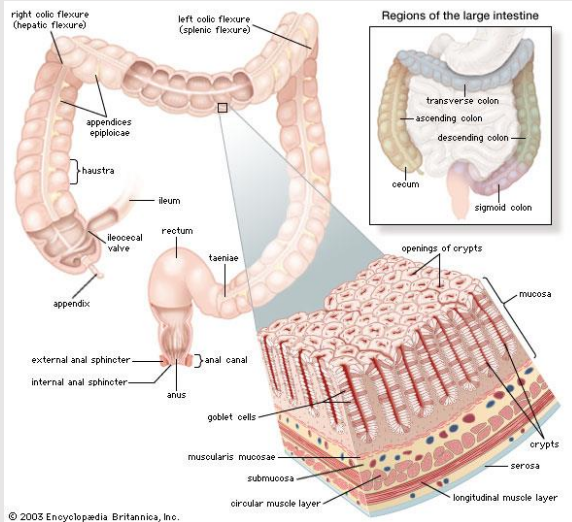
Klinika - celiakie

- gluten (lepek) - směs dvou bílkovin gliadinu a gluteninu
- zánětlivá imunitní reakce na gluten → celiakie



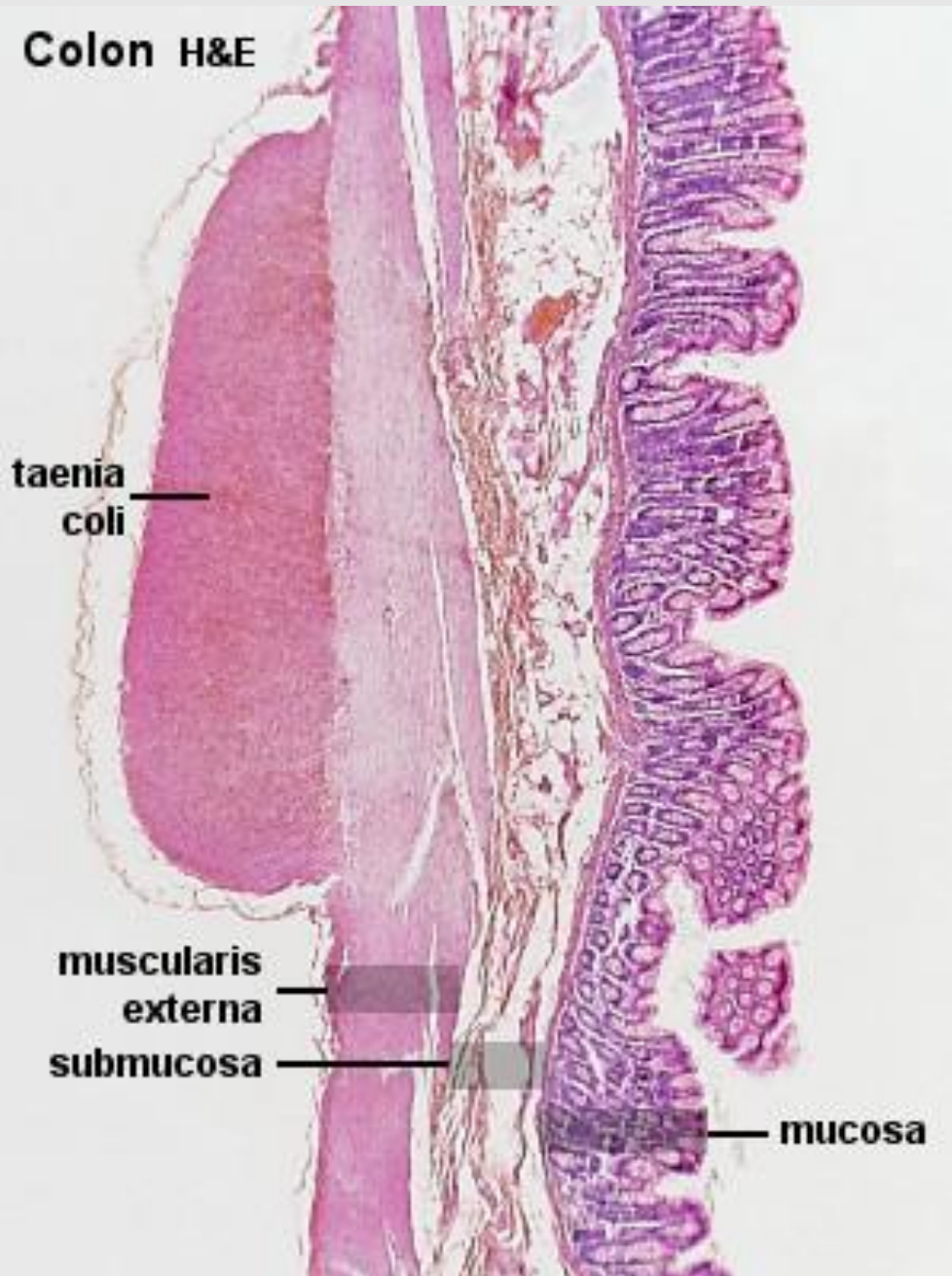
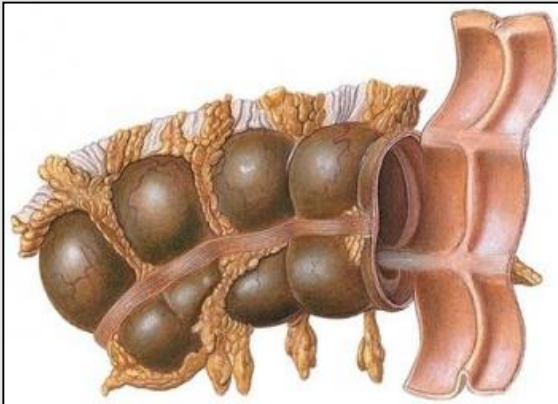
1.5 m

Intestinum crassum



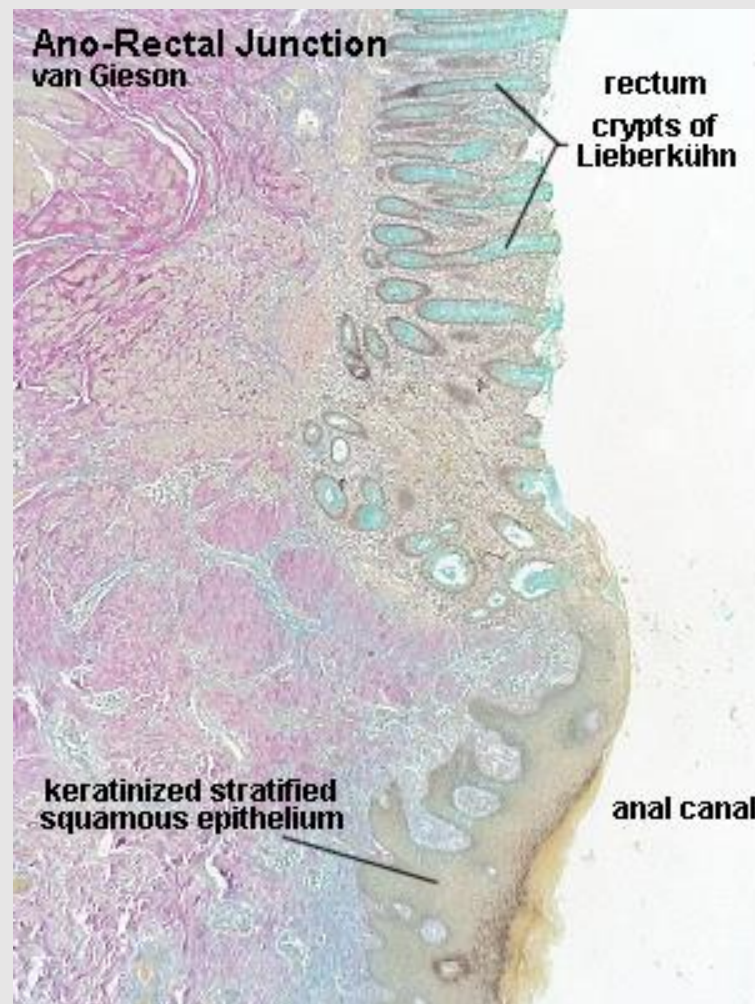
Intestinum crassum

- **tunica muscularis** – vnitřní cirkulární vrstva tvoří obvyklý obal, zato zevní longitudinální vrstva je zesílena ve tři úzké podélné pruhy - **taeniae coli**
- **seróza** tvoří malé klkaté výrůstky - appendices epiploicae
- zadní stěnu kryje adventicie

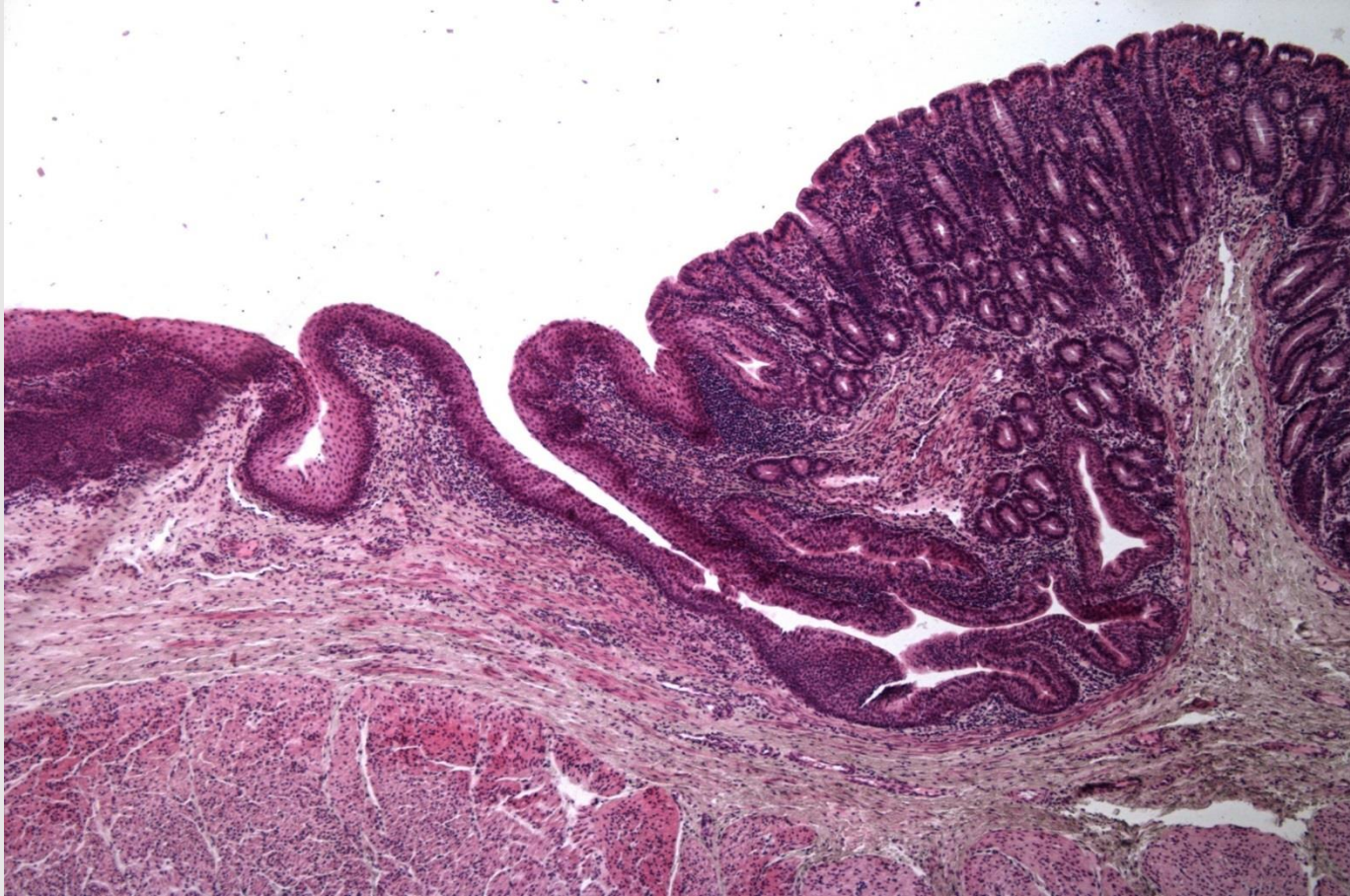


Intestinum rectum /proctos/

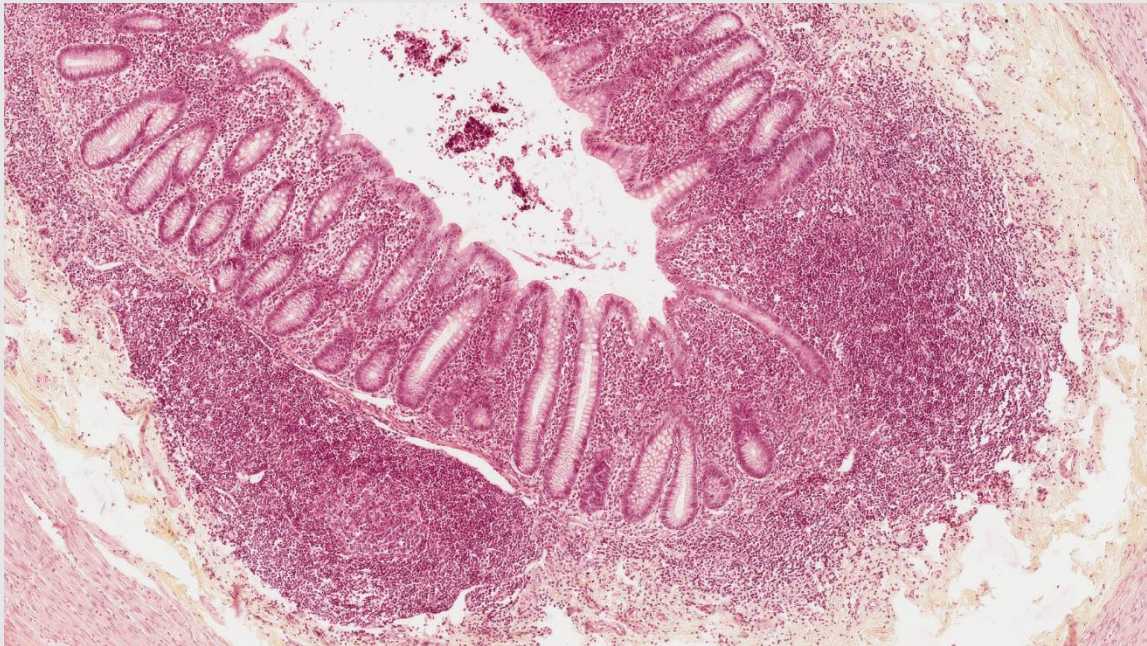
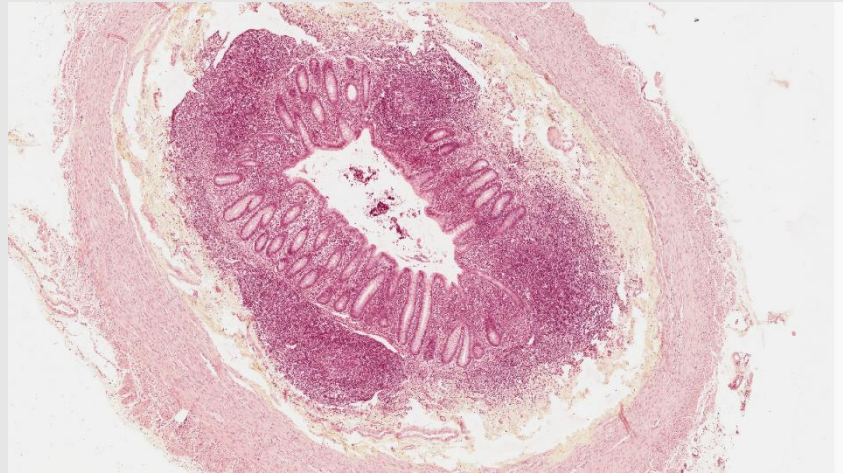
- Pars ampullaris recti
 - četné lymfocyty ve vazivu, chybějí taenie coli, pouze adventicie
- Canalis analis
 - 2.5-4 cm terminální část trávicího traktu
 - Zona haemorrhoidalis
 - sliznice má charakteristický reliéf - 5-10 longitudinálních řas – *columnae anales*
 - jednovrstevný cylindrický epitel nahrazen vrstevnatým dlaždicovým, četné žlázy, hojné žilní pleteně
 - Zona intermedia
 - m.sphinter ani internus /hladká svalovina/
 - Zona cutanea
 - typická kůže
 - m.sphincter ani externus /příčně pruhovaná svalovina/



Intestinum rectum /proctos/



Appendix vermiformis



krypty s Panethovými
buňkami

Trávicí systém II

- 11. Oesophagus
- 12. Cardia
- 13. Fundus ventriculi
- 14. Pylorus
- 15. Duodenum
- 16. Intestinum tenue
- 17. Intestinum crassum
- 18. Appendix
- 19. Anus

ATLAS EM:

žíhaný lem – povrch enterocytů /str. 28/

