

## Histology of the Digestive System (lab 10.1)

### Background information on histology of the digestive system

The background information for understanding this exercise is in lab 10.1. You should read lab 10.1 for background material and answer the lab report questions in the lab report section of that lab.

View microscope slides of the following digestive system organs. Sketch each organ at 40X and 400X. The 40X sketch does not have to show any cellular detail, but the 400X sketch does. See the list below for the features you should label in each sketch.

#### 1) Esophagus

We will not sketch the esophagus slide. But know that the esophagus mucosa is stratified squamous epithelial tissue and that, in the superior esophagus (the region of the esophagus near the pharynx) the muscularis externa is skeletal muscle.

You should view (but not sketch) the demonstration microscope of the esophagus. Also, review your sketches of stratified squamous epithelial tissue and skeletal muscle tissue from the previous histology lab.

#### 2) Stomach (Carolina slide 31-5124)

a) 40X: Sketch and label the mucosa, submucosa, and muscularis externa. Also label one ruga.

b) 400X: Sketch one gastric pit and one gastric gland. Label the gastric pit, the gastric gland, chief cells, and parietal cells. (You will not be able to visually distinguish the chief and parietal cells).

#### 3) Small intestine (Wards Jejunum slide 93 W 4530)

a) 40X: Sketch and label the mucosa, submucosa, and muscularis externa. Also label one plicae circularis and one villus.

b) 400X: Sketch one villus. Label one villus and also the microvilli.

#### 4) Large intestine/colon (Carolina slide 31-5298)

a) 40X: Sketch and label the mucosa, submucosa, and muscularis externa. Also label one circular fold.

b) 400X: Sketch one intestinal crypt. Label the intestinal crypt and goblet cells,

5) Liver (Wards 93 W 4566 )

a) 40X: Sketch and label several liver lobules. In one liver lobule label the central vein, sinusoids, bile canaliculi, and the portal triads. (At 40X, you will not be able to visually distinguish sinusoids from bile canaliculi, and you will not be able to visually distinguish the vessels within the portal triads).

b) 400X,: Sketch and label the central vein and the surrounding sinusoids and bile canaliculi.

c) 400X: Sketch and label the vessels of one portal triad. (The portal triads are found at the corners of the liver lobule). The branch of the hepatic portal vein is usually the largest vessel in the portal triad. The branch of the hepatic artery is usually the smallest vessel in the portal triad. The bile ductile is usually intermediate in size compared to the two blood vessels in the portal triad.

6) Pancreas (Triarch slide HK 9-21)

a) 40X: Sketch and label the areas with acini and the pancreatic islets.

b) 400X: Sketch one pancreatic islet and the acini surrounding it. Label the following features: One acinus, acinar cells, the pancreatic islet, beta cells and alpha cells. (You will not be able to distinguish beta from alpha cells).