

The Digestive System Tables

Enzymes and Secretions of Digestion:

<u>Enzyme or Fluid</u>	<u>Source</u>	<u>Function</u>
<u>Saliva</u>		
Serous Fluid Salivary Amylase (Ptyalin) Mucous	Salivary Glands Submandibular Parotid Sublingual	Moisten food Starch digestion Lubricate food
<u>Gastric Secretions</u>		
HCl Pepsinogen Mucous	Parietal Cells Chief Cells Mucosal Cells	Activate Pepsinogen Digests proteins Protection
<u>Liver</u>		
Bile Bile consists of:	Liver Sodium Glycholate: bile salt Sodium Taurocholate: bile salt Cholesterol Biliverdin Bilirubin Mucous Fat Lecithin Cells and cellular debris	Emulsify fats Lipases digest lipids
<u>Pancreas</u>		
Stored in inactive form in zymogen granules, secreted in inactive forms		
Trypsin Chymotrypsin Carboxypeptidase Pancreatic Amylase Pancreatic Lipase Ribonuclease Deoxyribonuclease Cholesterol Esterase Bicarbonate Ions	Pancreas Pancreas Pancreas Pancreas Pancreas Pancreas Pancreas Pancreas Pancreas Pancreas	Digests protein Digests protein Digests protein Digests carbohydrates Digests fats Digests RNA Digests DNA Forms cholesterol and free fatty acids Regulates pH

<u>Small Intestine</u>		
Aminopeptidases Peptidases Mucous Amylase Enterokinase Sucrase Maltase Isomaltase Lactase Lipase	Epithelium Epithelium Duodenal glands, goblet cells Epithelium Epithelium Epithelium Epithelium Epithelium Epithelium Epithelium	Splits polypeptides Splits free amino acids Protection from HCl Digests carbohydrates Activates trypsinogen Splits sucrose Splits maltose Splits isomaltose Splits lactose Digests fats

Hormones of Digestion:

<u>Hormone</u>	<u>Action</u>	<u>Site of Production</u>	<u>Method of Stimulation</u>	<u>Secretory Effectors</u>
Gastrin	Increase motility	Stomach/Duodenum	Distension	Increases gastric secretions
Secretin	Decrease motility Causes release of bicarbonate Stimulates pancreatic bile and juice	Duodenum	Acidity	Inhibits gastric secretions
C.C.K.	Slows pyloric pump Increases sphincter contractions Competitive inhibitor to block action of gastrin	Intestine Chol = bile Cyst = bladder Kinin = to move	Fatty Acids	Stimulates pancreatic duct Contracts gall bladder Relaxes hepatopancreatic ampullae sphincter
Gastric Inhibitory Peptide		Duodenum	Fatty Acids	Inhibits peptide motility Slows release of gastric secretions
Vasoactive Inhibitory peptide (VIP)			Stimulates increased electrolyte production Increases water in lamellar osmosis Stimulates pancreas	
Pancreozymin			Stimulates pancreas	