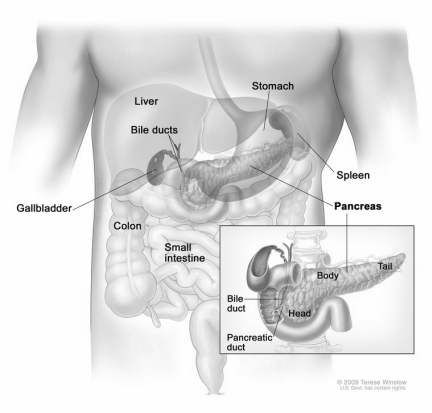
Location



Posterior to greater curvature to the stomach

Functions

Exocrine Function produce enzymes important to digestion. These enzymes include trypsin and chymotrypsin to digest proteins; amylase for the digestion of carbohydrates; and lipase to break down fats. When food enters the stomach, these pancreatic juices are released into a system of ducts that culminate in the main pancreatic duct. The pancreatic duct joins the common bile duct to form the ampulla of Vater which is located at the first portion of the small intestine, called the duodenum. The common bile duct originates in the liver and the gallbladder and produces another important digestive juice called bile. The pancreatic juices and bile that are released into the duodenum, help the body to digest fats, carbohydrates, and proteins.

Functions (cont)

Endocrine Function(Products: insulin, glucagon, somatostatin) consists of islet cells (islets of Langerhans) that create and release important hormones directly into the bloodstream. Two of the main pancreatic hormones are insulin, which acts to lower blood sugar, and glucagon, which acts to raise blood sugar. Maintaining proper blood sugar levels is crucial to the functioning of key organs including the brain, liver, and kidneys.

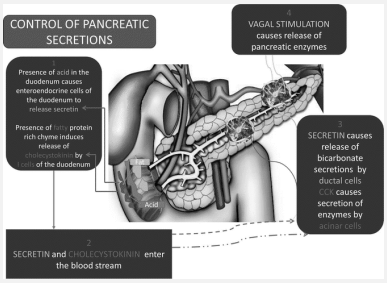
Summary

a gland that lies posterior to the stomach
produces enzymes that digest carbs proteins fats nucleic acids produces sodium bicarbonate = buffer stomach acid aunties contents in two first part of small intestine's (Duodenum)
The pancreas has a duct running through it that extends into smaller branches which is connected to the duodenum through a duct
The pancreas produces enzymes that aid in digestion and islets of Langerhans

Role in Homeostasis

Balance blood sugar by releasing insulin or glucagon
Help the body digest macro-molecules crucial in providing the body energy

Pancreatic juices



Exocrine cells (aka Acinar Cells) produce pancreatic juices that help with digestive activities
pancreatic juices = alkaline fluid mostly made of water HCO3, a mixture of digestive enzymes
vagal stimulation during the cephalic gastric phase and stomach motility equal stimulation for pancreatic juices

Enzymes

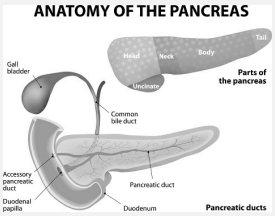
Produce/Released	Digest/Breaksdown
Pancreatic amylase	carbohydrates/ starches
Trypsin	protein /protease
Chymotrypsin	protein /protease
Carboxypeptidase	protein /protease
Elastase	Elastin Protein
Pancreatic Lipase	lipids
Ribonuclease	nuclease
Deoxyribonuclease	nuclease

Histology

Exocrine	**Secretory units:** pancreatic acini	**Cells:** acinar cells, centroacinar cells
Endocrine	**Secretory units:** islets of Langerhans	**Cells:** A (alpha), B (beta), D (delta), PP (pancreatic polypeptide) cells

Distinguishing histological features Presence of islets of Langerhans
Beginning of intercalated ducts within acini

Anatomy



5 to 6 inches long one-inch-thick retroperitoneal gland extends horizontally from Duodenum to the left abdominal cavity, reaches the spleen