

INNATE INTELLIGENCE

PANCREAS – Digestive (Exocrine) Functions

Normal Function – The pancreas produces and secretes digestive enzymes (including lipase, amylase, and protease) into the small intestine through ducts. These enzymes help break down fats, carbohydrates, and proteins, allowing for their absorption and utilization. It also secretes sodium bicarbonate to neutralize stomach acid in the duodenum and provides the alkaline environment needed to activate the enzymes.

Innate Stimulus – Secretin is released by S cells in response to acid and fatty acids in the duodenum. It stimulates the pancreas to produce and secrete bicarbonate-rich fluid, which helps neutralize stomach acid as well as the digestive enzymes lipase, amylase, and proteases.

Innate Response – Pancreatic enzymes are secreted by the acinar cells in the exocrine pancreas. These cells produce and release the digestive enzymes lipase, protease, and amylase, which break down fats, proteins, and carbohydrates, respectively.

Pancreas (Acinar Cells)

Secretes pancreatic lipase, proteases, and amylase



Duodenum

SYMPTOMS OF ENERGY DEFICIENCY	
STRESS RESPONSE	ORGAN EXHAUSTION
Increases nutrient requirements	Deficient nutrients available
Inhibits digestive secretions	Inadequate digestive secretions
FREQUENT SYMPTOMS	
Digestive issues such as abdominal pain, gas, bloating, diarrhea, and oily, foul-smelling stools. These symptoms can also lead to weight loss and malnutrition.	
NUTRITIONAL CONSIDERATIONS	
Improve Digestion and Absorption	
Several foods contain natural digestive enzymes that can aid in breaking down food and potentially support pancreatic function. These include pineapples, bananas, avocados, papayas, and raw honey. Additionally, fermented foods like sauerkraut, kimchi and kefir can also contribute to improved digestion.	
CLINICAL CONSIDERATIONS	
Involuntary muscle contractions	
Sympathetic Nerve Supply	C2 and C3 (SCG) from T1 to T3
The gallbladder and pancreas receive sympathetic nerve supply primarily from the celiac plexus, which in turn is derived from the splanchnic nerves. These splanchnic nerves carry preganglionic sympathetic fibers from the thoracic spinal cord (T5-T9 for the greater splanchnic nerve, T10-T11 for the lesser).	

Supplementing nutrients to counter symptoms is little more than educated guesswork. Symptoms are Innate's signal that a system, organ, or tissue is unable to produce adequate energy to meet its responsibilities for maintaining homeostasis and normal physiological function. **Carbohydrates, protein, lipids, vitamins, and minerals are building blocks used in producing energy. They must be put to work. They are not workers.**

Looking For More Information on Food Enzymes? Visit the Food Enzyme Institute Online!



Contact us

Toll-free 800-662-2630

Email: customerservice@foodenzymeinstitute.com

Online Seminars for your convenience

A large collection of Dr. Loomis' articles from 1990s - today

Reviews of scientific studies with narrations and clinical insight from Dr. Loomis & his colleagues

Educational videos to share with your patients on our Facebook & YouTube

Join us in person at the 2025 Food Enzyme Institute Annual Conference!

November 14–15, 2025
Madison, WI

Click the QR Code to watch a short video on **Chronic Pain and TMJ** with Dr. Mackenzie McNamara



www.foodenzymeinstitute.com