

## Gastric Inhibitory Peptide

Davor Stimac\*

Department of gastroenterology, Clinical Hospital Center of Rijeka - University of Rijeka, Croatia

### Introduction

Gastric inhibitory peptide (GIP) is produced by the mucosal duodenal cells in response to chyme containing high amounts of carbohydrate, proteins, and fatty acids. Main function of GIP is to decrease gastric emptying. Somatostatin is a hormone produced by the mucosal cells of the duodenum and also the delta cells of the pancreas. Somatostatin has a major inhibitory effect, including on pancreatic production.

This is when your small intestine doesn't make enough of the enzyme lactase, which breaks down the natural sugar in milk called lactose. With a shortage of lactase, lactose in dairy products that you eat travels straight to your colon instead of getting absorbed into your body. It then combines with bacteria and causes uncomfortable stomach symptoms. You are born with a gene that makes you lactose intolerant. The gene is most common in people of African, Asian, or Hispanic background. Your lactase levels drop suddenly as a child. Then you're no longer able to digest dairy as easily. This is the most common type of lactose intolerance. Your small intestine makes less lactase after an illness, injury, or surgery. It can also be a symptom of both celiac disease and Crohn's disease. Digestive enzymes are proteins that break down larger molecules like fats, proteins and carbs into smaller molecules that are easier to absorb across the small intestine. Without sufficient digestive enzymes, the body is unable to digest food particles properly, which may lead to food intolerances.

Intrinsic factor is produced by the parietal cells of the stomach. Vitamin B12 is an important vitamin that requires assistance for absorption in terminal ileum. Initially in the saliva, haptocorrin secreted by salivary glands binds Vit B. The purpose of this complex is to protect Vitamin B12 from hydrochloric acid produced in the stomach. Once the stomach content exits the stomach into the duodenum, haptocorrin is cleaved with pancreatic enzymes, releasing the intact vitamin B12. Intrinsic factor (IF) produced by the parietal cells then binds Vitamin B12, creating a Vit B12-IF complex. This complex is then absorbed at the terminal portion of the ileum.

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Trillions of these microbes exist mainly inside your intestines

Pancreas is both an endocrine and an exocrine gland, in that it functions to produce endocrine hormones released into the circulatory system (such as insulin, and glucagon), to control glucose metabolism, and also to secrete digestive/exocrine pancreatic juice, which is secreted eventually via the pancreatic duct into the duodenum. Digestive or exocrine function of pancreas is as significant to the maintenance of health as its endocrine function. Two of the population of cells in the pancreatic parenchyma make up its digestive enzymes

### Pancreatic lipase that degrades

Some of the preceding endogenous enzymes have pharmaceutical counterparts (pancreatic enzymes (medication)) that are administered to people with exocrine pancreatic insufficiency. The pancreas's exocrine function owes part of its notable reliability to biofeedback mechanisms controlling secretion of the juice. The following significant pancreatic biofeedback mechanisms are essential to the maintenance of pancreatic juice balance/production.

Cholecystokinin (CCK) is a unique peptide released by the duodenal "I cells" in response to chyme containing high fat or protein content. Unlike secretin, which is an endocrine hormone, CCK actually works via stimulation of a neuronal circuit, the end-result of which is stimulation of the acinar cells to release their content. CCK also increases gallbladder contraction, resulting in bile squeezed into the cystic duct, common bile duct and eventually the duodenum. Bile of course helps absorption of the fat by emulsifying it, increasing its absorptive surface. Bile is made by the liver, but is stored in the gallbladder.

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\*Corresponding author: Davor Stimac, Department of gastroenterology, Clinical Hospital Center of Rijeka - University of Rijeka, Croatia, E-mail: davorstimac@gmail.com

Received date: June 10, 2021; Accepted date: June 24, 2021; Published date: June 30, 2021

Citation: Davor Stimac (2021) Gastric Inhibitory Peptide. J Gastrointest Dig Syst 11:6.

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