Gastrointestinal (GI) smooth muscle responses to stimulation of the nonadrenergic noncholinergic inhibitory nerves have been suggested to be mediated by polypeptides, ATP, or another unidentified neurotransmitter. The discovery of nitric-oxide (NO) synthase inhibitors greatly contributed to our understanding of mechanisms involved in these responses, leading to the novel hypothesis that NO, an inorganic, gaseous molecule, acts as an inhibitory neurotransmitter. You are going to email the following Gastrointestinal Function Regulation by Nitrergic Efferent Nerves. Message Subject (Your Name) has forwarded a page to you from Pharmacological Reviews. Message Body (Your Name) thought you would be interested in this article in Pharmacological Reviews. Regulation of Functional Development of The Small Intestine. Author(s): N.N. Nanthakumar. View abstract. Close abstract. View full article. The gastrointestinal tract is responsible for acquisition of energy and nutrients to sustain life. Development of The Structure and Function of the Neuromusculature of the Gastrointestinal Tract. Author(s): P. Millis. View abstract. Close abstract. View full article. The structure and function of the gut results from a complex interplay between various cell types and components that is regulated by growth factors and hormones together with immune and neural inputs (1). Structure, Function, and Regulation of Intestinal Lactase-Phlorizin Hydrolase and Sucrase-Isomaltase in Health and Disease. Author(s): H.Y. Naim. View abstract. The regulation of secretin functions is controlled by the action of hormones such as CCK or by hormonal-neuronal interaction, such as CCK and the vagus nerve. Pathologically, hypersecretinemia can be found in cases of duodenal ulcer, renal failure, chronic pancreatitis and esophageal small cell carcinoma. Cholecystokinin controls many gastrointestinal functions by activating two G-protein coupled receptors: CCK1, formerly known as CCK-A (alimentary) receptor, which is distributed mainly in the alimentary tract, and CCK2, formerly known as CCK-B (brain) receptor, which is distributed mainly in the central nervous system. A functional role of the vagus nerves for regulation of MLN-induced contraction was demonstrated in a digestive state but not in the interdigestive state. MLN does not cause contraction in the digestive state in the vagus nerve-intact animals but causes contraction in vagotomized animals, suggesting that the vagus nerve suppresses the action of MLN in the digestive state (20). The morphology and function of the GI tract in birds are different from those in mammals in the following three aspects: (i) the crop in the middle of the esophagus stocks food, (ii) there are two distinct stomach structures, the proventriculus that secretes digestive enzymes for chemical digestion and the gizzard for mechanical digestion, and (iii) a pair of a long cecum and.