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ROLE OF PROSTAGLANDINS IN GASTROINTESTINAL TRACT

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ABSTRACT

It has been shown that PG production occurs throughout the digestive system. After the gastric muscles and the fore stomach, bioassays showed that PG production was highest in the colon, rectum, and ileum, as well as in gastric mucosa and the duodenum, the jejunum, and the esophagus in rats. Smooth muscle EP1 receptors in the gastrointestinal tract are stimulated by PGE2 to contract. The parietal stomach cells are inhibited in their acid production by both PGE2 (which acts on the EP3 receptor) and PGI2 (which acts on the IP receptor). As a more effective inhibitor of acid secretion in the stomach of the anaesthetized dog, PGI2 has a greater effect on acid secretion in anaesthetized rat, conscious dog, and monkey than does PGE2. To protect the mucosa from gastric acid damage, human stomach epithelial and smooth muscle cells generate PGE2, which is administered intragastrically to induce the production of viscous mucus.