

Immunohistochemical Study on the Distribution of Endocrine Cells in the Gastrointestinal Tract of the Babirusa, *Babirusa babirusa* (Suidae)

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Abstract

The distribution and relative frequency of endocrine cells in the gastrointestinal tract of the babirusa were studied immunohistochemically using the avidin-biotin-peroxidase complex method. Thirteen types of gut endocrine cells were detected; they were immunoreactive for chromogranin, serotonin, somatostatin, gastrin, bovine pancreatic polypeptide (BPP), glucagon, secretin, cholecystokinin (CCK), methionine-enkephalin-Arg⁶-Gly⁷-Leu⁸ (MENK8), motilin, gastric inhibitory polypeptide (GIP) and peptide tyrosine tyrosine (PYY). Cells that were immunoreactive for chromogranin, serotonin, somatostatin and glucagon were found in all portions of the gastrointestinal tract. MENK8-immunoreactive cells were observed in the stomach and small intestine. Gastrin-immunoreactive cells were detected in the pyloric region and duodenum. PYY-immunoreactive cells were found in the small and large intestine. Cells immunoreactive for motilin, CCK, GIP, and secretin were observed in the proximal small intestine and those immunoreactive for neurotensin were found only in the ileum. Although the distribution pattern of endocrine cells in the gastrointestinal tract of babirusa was similar to those reported for pig, restricted distribution of several endocrine cells, gastrin, BPP, MENK8, motilin, CCK, GIP, secretin and neurotensin and wider distribution of glucagon and PYY were observed in the babirusa. The unexpected presence of MENK8 in all glandular regions of the stomach and PYY in the small intestine was also noted. The distribution of gut endocrine cells might be related to the regulatory characteristics of the babirusa digestive tract.