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Immunocytochemical Study on the Enteroendocrine Cells in the Gastrointestinal Tract of Seven Teleostean Species

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The gastrointestinal tract of seven marine teleosts was investigated immunocytochemically for the occurrence of somatostatin, serotonin, gastrin, pancreatic polypeptide(PP), cholecystokinin-8(CCK-8) and glucagon cells. All types of enteroendocrine cell examined were demonstrated in the *Mugil cephalus*, five types of cell except glucagon cell in the *Lateolabrax japonicus*, *Epinephelus septemfasciatus* and *Salvelinus fariopsis*, four types of cell except somatostatin and glucagon cells in the *Zoarcetes gillii* and *Acanthogobius hasta* and four types of cell except PP and CCK-8 cells in the *Konosirus punctatus*. The frequency and distribution pattern of enteroendocrine cells differed from species and each portion of the gastrointestinal tract. In the gastric mucosa, serotonin cells were detected on the whole part of stomach in all species examined. And gastrin cells of the pyloric part of stomach were observed in most species of this study. In the intestinal mucosa, three types of cell, such as gastrin, PP and CCK-8 cells, were more abundantly demonstrated than the other types of cell. These cells were usually distributed over the proximal part of intestinal mucosa. And the same types of cell as intestinal mucosa were also observed in the pyloric caeca in some species.

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Comparison of Lectin-binding Pattern in Testis of Laboratory and Wild Mouse Strains

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The cell surface of spermatogonia and primary spermatocytes showed an affinity for PNA, sWGA and Con A. The PNA and Con A affinity were also found in the cytoplasm, and SBA and sWGA in the Golgi region of primary spermatocytes. The developing spermatids in transition from Golgi to acrosome phase, affinity for SBA was detected in acrosome, PNA and Con A in cytoplasm, and PNA, sWGA and Con A in cell surface. Usually, SBA, PNA and sWGA elicited stronger affinity, and affinity for all examined lectins increased according to development from spermatogonia to acrosome phase spermatid. PNA, sWGA and Con A affinity were observed in the tail of maturation phase spermatids and SBA, PNA, sWGA and Con A in the cytoplasmic droplet of developing spermatids. PNA, sWGA and Con A affinity showed in the cytoplasmic process of Sertoli cells. The affinity for lectins among laboratory and wild mouse strains showed a similar pattern. But comparing SBA affinity, many more Golgi region of primary spermatocytes and acrosome of acrosome phase spermatid were stained in the laboratory mouse strains than the wild.