

Glucagon-like peptide 1 (GLP-1) in the gastrointestinal tract of the pheasant (*Phasianus colchicus*)

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Abstract

The distribution of Glucagon-like peptide 1 (GLP-1) was investigated in the gastrointestinal tract of the pheasant using immunohistochemistry. GLP-1 immunoreactive cells were common in the small intestine, in the proventriculus and in the pancreas. Immunostained cells were not seen in the crop, in the gizzard and in the large intestine. Double labelling demonstrated that GLP-1 and pituitary adenylate cyclaseactivating polypeptide (PACAP) were occasionally co-localized only in the duodenal villi. In contrast to what was previously described in the chicken and ostrich, we noted GLP-1 positive cells in the duodenum.

These data were consistent with the presence of proglucagon mRNA in the chicken duodenum. Our findings indicate that GLP-1 might have an inhibitory effect on gastric and crop emptying and on acid secretion also in the pheasant. Moreover, the results of the present research regarding the initial region of the small intestine suggest a further direct mechanism of the GLP-1 release during the early digestion phase and an enhancement of its incretin role.

Keywords: GLP-1; Gastrointestinal tract; Duodenum; Pheasant

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