

Abstract

An ectopic pancreas is defined as pancreatic tissue outside its normal location, anatomically separated from the pancreas.

The transcription factor pancreas/duodenum homeobox protein 1 (PDX1) is involved in maintaining the pancreas and functions in early pancreatic development, beta cell differentiation, and endocrine non beta cells. Pancreatic transcription factor 1 subunit alpha (PTF1A) affects exocrine cell formation and regulation of acinar cell identity, and is expressed in exocrine cells as a transcription factor. The depletion of SALL4 disrupts self-renewal and induces differentiation.

To clarify which of PDX1, PTF1A, or SALL4 determines the difference in Heinrich's classification, we examined the localization and number of positive cells. We analyzed the differential expression of PDX1, PTF1A, and SALL4 in large and small ducts in ectopic pancreas by immunohistochemistry. Results showed that the number of PTF1A-positive cells in large ducts was more widespread in type I than in type II in the gastro-duodenum, and more SALL4-positive cells were noticed in large ducts than in small ducts in the gastro-duodenum of type II. Our results revealed that PTF1A might promote exocrine differentiation in developing the pancreatic tissues, and that those with widespread expression differentiate into exocrine cells.