

Online Resource 9 Pancreas histological examination confirming multiple neuroendocrine well-differentiated G1 tumors; left adrenal gland histological examination confirming a benign well-differentiated adenoma. Panels a-h refer to pancreatic cancer tissue except panel c which is normal pancreatic tissue. Panels i and j refer to adrenal tissue. **a** Immunohistochemical staining with hematoxylin and eosin (original magnification X 20). **b** Immunohistochemical staining for menin (original magnification X 20) showing clear loss of menin in the tumor cells with only very focally expression in a normal preexisting islet of Langerhans (red arrow) and in ducts (black arrow). **c** Immunohistochemical staining for glucagon (original magnification X 10) in normal pancreatic tissue with sparse endocrine islets. **d** Immunohistochemical staining for glucagon (original magnification X 20) in pancreatic tumor. **e** Immunohistochemical staining for chromogranin (original magnification X 20). **f** Immunohistochemical staining for Ki-67 (original magnification X 20). **g** Immunohistochemical staining for synaptophysin (original magnification X 20). **h** Immunohistochemical staining with hematoxylin and eosin showing focal perineural invasion (original magnification X 40). **i** Immunohistochemical staining with hematoxylin and eosin (original magnification X 20). **j** Immunohistochemical staining for menin (original magnification X 20) showing loss of menin in the tumor (red asterisk), with retained weak positivity in stromal cells (i.e. endothelial cells and fibroblasts) between the tumor cells and in adjacent preexisting normal adrenal tissue (green asterisk).

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