Rationale for Inhibition of the Hedgehog Pathway Paracrine Loop in Pancreatic Adenocarcinoma

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Summary
The role of Hedgehog (Hh) pathway in the biology of pancreatic adenocarcinoma is an emerging area of investigation and provides a novel field for treatment intervention. Recent studies have shown the activation of the Hh pathway in pancreatic cancer. Despite the initial assumption of an autocrine mechanism, it seems that the Hh pathway contributes to the molecular conversation between tumor and its microenvironment through a paracrine loop. Furthermore, members of the Hh pathway crosstalk with other pathways, they regulate tumor angiogenesis and are associated with cancer stem cells. In addition, there is preclinical evidence about the efficiency of Hh inhibitors both in vitro and in vivo and the first clinical trials with those compounds in the treatment of patients with pancreatic adenocarcinoma, are already under way.