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BLT2 is Expressed in PanINs, IPMNs, Pancreatic Cancer and Stimulates Tumor Cell Proliferation

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It was shown for the first time that leukotriene B_4 Receptor 2 (BLT2) is overexpressed in human pancreatic cancers, human pancreatic intraepithelial neoplastic (PanIN) lesions and in malignant intraductal papillary mucinous neoplasias (IPMN). Moreover, BLT2 overexpression in pancreatic cancer cells leads to significant growth stimulation, compared with control cells transfected with either fMLPR or empty vector.

LTB_4 and Compound A do both stimulate pancreatic cancer cell growth, in a time and dose dependant manner. Moreover, selective BLT2 inhibition with LY255283 or siRNA causes cell growth inhibition. Since all pancreatic cancer cell lines express BLT1 and BLT2, this explains the difference in cell growth after stimulation with LTB_4 and Compound A or after inhibition with LY255283 and siRNA, respectively. Therefore, blocking of BLT2 alone most likely would not sufficiently inhibit the proliferation of pancreatic cancer cells.

Upon previous results, we suggest BLT2 as an early marker and new target for chemoprevention and therapy for pancreatic cancer.