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ABSTRACTS**

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Coumarin-palladium(II) complex acts as a potent and non-toxic anticancer agent against pancreatic carcinoma cells

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Pancreatic carcinoma represents one of the most lethal malignant diseases in the world although some progress has been made in treating the disease in the past decades. Current multi-agent treatment options have improved the overall survival of patients, but more effective treatment strategies are still needed. In this paper we have characterized anticancer potential of coumarin-palladium(II) complex against pancreatic carcinoma cells. Cells viability, colony formation and migratory potential of pancreatic carcinoma cells were assessed in vitro, followed by evaluation of apoptosis induction and in vivo testing on zebrafish. Presented results showed remarkable reduction in pancreatic carcinoma cells growth both in vitro and in vivo, being effective at micromolar concentrations (0.5 μ M). Treatments induced apoptosis, increased BAX/BCL-2 ratio and suppressed the expression of SOX9 and SOX18, genes shown to be significantly up-regulated in pancreatic ductal adenocarcinoma. Importantly, treatments of the zebrafish-pancreatic adenocarcinoma xenografts resulted in significant reduction of tumor mass, while did not provoke any adverse toxic effects including hepatotoxicity. Presented results indicate the great potential of tested compound and the perspective of its further development towards pancreatic cancer therapy.

