The potential to personalize targeted therapy shown by \textit{in vitro} kinase activity profiling in pancreatic xenograft models

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\textbf{Introduction and methods}

Xenograft tumours retain important biological features of the tumour of origin and can be highly predictive of the efficacy of therapeutic drugs with clinical activity in humans. The aim of the current study is to differentiate protein tyrosine kinase inhibitor (PTKI) responses among pancreatic xenografts.

Kinase activity profiles measured by substrate peptide phosphorylation in real time (PamGene platform\textsuperscript{a}), were generated from protein lysates of 17 human pancreatic tumour xenografts (from Oncotest\textsuperscript{b}). Select lysates were exposed \textit{ex vivo} to erlotinib, dasatinib, sunitinib and sorafenib.

\textbf{Results and discussion}

Different PTKIs can be separated in a PCA plot based on PamChip profiling of kinase activity in xenograft lysates, treated \textit{ex vivo}.

Patient pancreatic tumour lysates (from CZ\textsuperscript{c}) were treated \textit{ex vivo} with different PTKIs. Inhibition ratios were comparable among patient tumours and human xenografts, as represented for dasatinib.

\textbf{Initiatives and conclusions}

Inhibition ranking scores computed for patient tumours treated \textit{ex vivo} with PTKIs indicate that kinase activity profiles could potentially guide therapeutic options in clinical settings. Initiatives are currently underway, both for \textit{in vivo} efficacy studies (b) and clinical intervention trials for providing proof-of-concept extrapolations.

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