

- Gozgit, P.A. Bunn, Jr., D.R. Camidge, A.C. Tan, F.R. Hirsch, L.E. Heasley, FGFR1 mRNA and protein expression, not gene copy number, predict FGFR TKI sensitivity across all lung cancer histologies. *Clinical cancer research : an official journal of the American Association for Cancer Research* 20 (2014) 3299-3309.
- [36]V.L. Damaraju, M. Kuzma, D. Mowles, C.E. Cass, M.B. Sawyer, Interactions of multitargeted kinase inhibitors and nucleoside drugs: Achilles heel of combination therapy? *Molecular cancer therapeutics* 14 (2015) 236-245.
- [37]C.E. Onesti, A. Romiti, M. Roberto, R. Falcone, P. Marchetti, Recent advances for the treatment of pancreatic and biliary tract cancer after first-line treatment failure. *Expert review of anticancer therapy* 15 (2015) 1183-1198.
- [38]S. Trudel, Z.H. Li, E. Wei, M. Wiesmann, H. Chang, C. Chen, D. Reece, C. Heise, A.K. Stewart, CHIR-258, a novel, multitargeted tyrosine kinase inhibitor for the potential treatment of t(4;14) multiple myeloma. *Blood* 105 (2005) 2941-2948.

Supplementary Figure 1

(A, B) Mice in each group 63 days after initiation of treatment

(C, D) The body weights of the mice did not change significantly during treatment.

Supplementary Figure 2

(A, B) RT-PCR showing that the FGFR2-CCD6 fusion is detectable in treated LIV31 PDXs.

(C) Control GAPDH RT-PCR products for each treatment group.

Supplementary Figure 3

A Representative immunohistochemical staining of xenografts from mice treated as indicated and evaluated for MMP2, MMP3 and MMP9. B Statistical quantitation of immunohistochemical staining (MMP2, MMP3 and MMP9). Data are mean±SEM. All comparisons among groups are $P>0.05$.

Figure legends

Figure 1. Establishment of a novel cholangiocarcinoma patient derived xenograft (LIV31) endogenously harboring an FGFR2-CCDC6 fusion protein. (A) Contrast-enhanced abdominal CT image of intrahepatic CCA bearing an FGFR2-CCDC6 fusion, demonstrates a right liver lobe mass. (B) Contrast-enhanced chest CT image of the same patient shows a metastasis in the left lung which developed 9 months after resection of the liver mass. (C) H&E staining of the primary CCA shows a grade 3 of 4 moderately-differentiated adenocarcinoma. (D) H&E staining of lung metastasis shows a similar moderately differentiated adenocarcinoma (magnification, x200). (E) Sanger sequencing of the RT-PCR product validates in-frame fusion transcript. (F) LIV31 grows subcutaneously in the flanks of nude mice. (G) Representative excised tumor from a LIV31 nude mouse xenograft. (H-K) FGFR2 break-apart FISH results from control tissue (H), primary liver tumor (I), lung metastasis (J), and patient derived xenograft (K) confirming that the primary tumor harbors a gene rearrangement involving the FGFR2 gene that is faithfully