



Supplementary Figure 1: 7rh reduces collagen-mediated signaling in a concentrationdependent manner *in vivo*. (A) Schematic representation of the animal experiment. PanO2 cells were orthotopically injected into C57BL/6 mice. Mice were treated with a one-time oral dose of 7rh (0.1, 1, or 10 mg/kg) on day 10 post tumor cell injection (TCI). (B-D) Immunofluorescence analysis of tumor tissue from each group showing inhibition of Ddr1 activation and downstream signaling (P-Pyk2 and P-Peak1), as well as a significant induction of apoptosis (cleaved caspase-3, E). Mean +/- SEM % Area Fraction for p-Ddr1, p-Pyk2, p-Peak1 and cleaved caspase 3 are shown. \*, p < 0.05; \*\*, p < 0.005; \*\*\*, p < 0.0005; \*\*\*\*, p < 0.0005 v vehicle, one-way ANOVA with Tukey's MCT. Scale bar, 50 µm.





Supplementary Figure 2: 7rh inhibits Ddr1 activation in PanO2 tumors. (A) Schematic representation of the animal experiment. PanO2 cells were orthotopically injected into C57BL/6 mice. 7rh was given orally 3x/week at the indicated concentrations starting on day 10 post tumor cell injection (TCI) and ended at day 21. (B) Tumor H&E histology is shown. (C-G) Immunofluorescence analysis of amylase (C), p-Ddr1 (D), P-Peak1 (E), cleaved caspase-3 (F) and PCNA (G) expression in tumor tissue from each group is shown. Mean +/- SEM of % Area Fraction is graphed. \*, p < 0.05; \*\*\*, p < 0.005; \*\*\*\*, p < 0.0005; \*\*\*\*, p < 0.0005 v vehicle, one-way ANOVA with Tukey's MCT. Scale bar, 50  $\mu$ m. (H) The expression level of p-Peak1 in tumor lysates from each treatment group was determined by western blot analysis. Actin was used as a loading control.

Sup Fig 3



Supplementary Figure 3: Inhibition of Ddr1 with 7rh does not induce observable toxicity. (A) Serum from C57Bl/6 mice bearing orthotopic PanO2 tumors treated with vehicle or 7rh (3.3, 10 or 30 mg/kg) 3x/week for 2 weeks was collected at the time of sacrifice. The serum level of Alb (albumin), Alt (liver transaminases), Ast (aspartate transaminase), Bun (blood urea nitrogen), Crea (creatine), Glu (glucose), Tbil (total bilirubin), and Tp (plasma total protein) is shown. (B) Animal weights for each treatment group during the treatment period are displayed. \*, p < 0.05; \*\*\*, p < 0.0005; \*\*\*\*, p < 0.0005; \*\*\*\*; p < 0.0005; \*\*\*; p < 0.0005; \*\*\*;





**Supplementary Figure 4: 7rh in combination with chemotherapy reduced collagen deposition and AsPC-1 tumor weight.** Associated with Figure 5. (A) Trichrome analysis of tumor tissue from mice bearing orthotopic AsPC-1 tumors treated with 7rh, chemotherapy or the combination as described in Figure 5. (B) Pancreas (tumor) weight v day of sacrifice is displayed. (C) Animal weight for each treatment group is displayed.



**Supplementary Figure 5: 7rh in combination with chemotherapy reduced collagen deposition and** *KPC* **tumor weight.** Associated with Figure 6. (A) Trichrome analysis of tumor tissue from KPC mice treated with 7rh, chemotherapy or the combination as described in Figure 6. (B) Pancreas (tumor) weight v day of sacrifice is displayed. (C) Animal weight for each treatment group is displayed.