

SUPPLEMENTAL FIGURE LEGENDS

Supplemental Figure S1 (A) A 3D Principal component analysis (PCA) plot of the miRNA data that characterizes the trends exhibited by the expression profiles of pancreatic cancer (PC, purple), pancreatic neuroendocrine tumor (NET, green), chronic pancreatitis (CP, red)), healthy controls (N, blue). Each dot represents a sample and each color represents the type of the sample. (B) VENN diagram showing significantly elevated miRNAs (fold-change \geq 2 and $p<0.05$) in pancreatic cancer (PC) compared to three control groups (NET, CP, and N).

Supplemental Figure S2 Reproducibility of Taqman miRNA microarray. (A) A serum sample was analyzed in duplicate and the correlation was determined using Spearman test. (B) The effects of pre-amplification on serum miR-1290 levels by Taqman RT-PCR.

Supplemental Figure S3 Validation of elevated miRNAs in serum from patients with pancreatic cancer. Levels of selected serum microRNAs were compared in an independent set of cases and controls including patients with pancreatic cancer (n=41) compared to patients with pancreatic neuroendocrine tumor (NET) (n=18) and chronic pancreatitis (CP) (n=35), normal controls (N) (n=19), and the combined from of non-malignant controls including chronic pancreatitis and normal controls (CN) (n=54), and non-pancreatic cancer control including pancreatic neuroendocrine tumor, chronic pancreatitis, and normal controls (NCN) (n=72) using Taqman real-time PCR. Boxes represent the inter-quartile range and the line indicates the median value. Error bars indicate the 90th and 10th percentiles. MiR-16 was used as reference gene for normalization. Mann-Whitney was used to compare groups.

Supplemental Figure S4 The effects of miR-1290 on pancreatic cancer cell proliferation and invasion. (A). The expression levels of miR-1290 were measured in miR-1290 mimic-transfected AsPC1 and Panc5.04 and miR-1290 inhibitor-transfected Panc10.05 and Panc198 cell lines, respectively. (B). Cell lines expressing low levels of miR-1290 (AsPC1 and Panc5.04) were transfected with miR-1290 mimic and cell lines with high miR-1290 (Panc10.05 and Panc198) were transfected with a miR-1290 inhibitor and miRNA controls, and cell growth was determined using MTS assay, respectively. Data are mean \pm SD of 5 replicates and are representative of two independent experiments. (C). The invasive potential of miR-1290 was determined using a chamber matrigel invasion assay in the same cell lines treated in the same way. Data are mean \pm SD of triplicates and are representative of two independent experiments. Representative photographs of invasion assays were shown (D). Original magnification, 20 \times .