Supplementary Figure 1. PTENP1 and PTEN expression were decreased in human ccRCC samples. PTENP1 and PTEN expression were determined by quantitative RT-PCR in clinical ccRCC samples and their adjacent normal renal tissues.

Supplementary Figure 2: PTENP1 expression in ACHN and SN12PM6 cells.

Supplementary Figure 3: PTENP1 expression activated AKT in ACHN and SN12PM6 cells. Total AKT and phosphorylated AKT expression were determined by immunoblot in ACHN and SN12PM6 cells expressing PTENP1 or a vector control.

Supplementary Figure 4: miR-21 expression in ACHN and SN12PM6 cells.

Supplementary Figure 5: PTEN expression in ACHN and SN12PM6 cells.

Supplementary Figure 6: 5-10 fold overexpression of PTENP1 increased PTEN expression and suppressed cell proliferation, migration and invasion. (A) PTENP1 expression in ACHN and SN12PM6 cells. (B) PTEN expression was determined by immunoblot in ACHN and SN12PM6 cells expressing PTENP1 or a vector control. PTENP1 increased PTEN expression. (C) Cell proliferation was determined in ACHN and SN12PM6 cells expressing PTENP1 or a vector control. PTENP1 suppressed cell proliferation (D and E) Cell migration and invasion were determined by migration and invasion assay in ACHN and SN12PM6 cells expressing PTENP1 or a vector control.
PTENP1 suppressed cell migration and invasion.

**Supplementary Figure 7:** PTENP1 functions and regulation of PTEN are DICER dependent. (A) PTEN expression was determined by immunoblot in DICER knock-down ACHN and SN12PM6 cells expressing PTENP1 or a vector control. PTEN expression levels are similar when DICER was knocked down. (B) Cell proliferation was determined in DICER knock-down ACHN and SN12PM6 cells expressing PTENP1 or a vector control. Cell proliferation was similar when DICER was knocked down. (C) Cell migration and invasion were determined by migration and invasion assay in DICER knock-down ACHN cells expressing PTENP1 or a vector control. Cell migration and invasion were similar when DICER was knocked down. (D) Cell migration and invasion were determined by migration and invasion assay in DICER knock-down SN12PM6 cells expressing PTENP1 or a vector control. Cell migration and invasion were similar when DICER was knocked down.

**Supplementary Figure 8:** 5’AZA increased PTENP1 and PTEN expression and suppressed cell proliferation, migration and invasion. (A) PTENP1 expression was determined by quantitative RT-PCR in ACHN, SN12PM6, CaKi-1 and OS-RC-2 cells with 5’AZA or a control. PTENP1 expression was increased in cells with 5’AZA treatment. (B) PTEN expression was determined by immunoblot in ACHN and SN12PM6 cells treated with 5’AZA or a control. PTEN expression was increased in cells with 5’AZA treatment. (C) Cell proliferation was determined in ACHN and
SN12PM6 cells treated with 5’AZA or a control. Cell proliferation was suppressed in cells with 5’AZA treatment. (D, E) Cell migration and invasion were determined in ACHN and SN12PM6 cells with 5’AZA or a control. Quantification of cell migration and invasion was shown in (E). Cell migration and invasion were suppressed in cells with 5’AZA treatment.

**Supplementary Figure 9:** Cisplatin and gemcitabine treatment increased PTENP1 expression. PTENP1 expression was determined in ACHN and SN12PM6 cells with cisplatin or gemcitabine treatment. PTENP1 expression was increased in ACHN and SN12PM6 cells treated with cisplatin or gemcitabine.