Supplementary Figure Legends

Supplementary Figure 1. Expression of miR-493 in normal and tumor bladder tissues using in situ hybridization.
A. Epithelium. B. Tumor. Representative photomicrographs are shown at 100x magnification.

Supplementary Figure 2. Expression of MiR-107, miR-141 and miR-1290 in bladder cell lines and human bladder tissues.
MiR-107, miR-141 and miR-1290 expression levels in SV-HUC-1 and bladder cancer cell lines were detected by real-time PCR and normalized to RNU48. Data are presented as mean value ± SD for three independent experiments and compared to the level of MiR-107, miR-141 or miR-1290 in SV-HUC-1 cells normalized as 1.

Supplementary Figure 3. Functional effects of Mock and Control microRNA in transfected T24 and J82 cells.
A. MiR-493 expression levels in bladder cancer cell lines (T24, J82) were detected by using real-time PCR at 48 hr after transfection of Mock (without oligo-nucleotide) and Control microRNA precursor. Data are presented as mean value ± SD for three independent experiments and compared to the level of miR-493 in SV-HUC-1 cells normalized as 1. B. RhoC and FZD4 protein levels in T24 and J82 cells transfected with Mock or miR control. At 72 hr after transfection, total protein was extracted and analyzed by Western blots. β-Actin was used as a loading control. C. Cell viability was analyzed by the MTS assay 4 days after transient transfection. D. Wound healing assay with Mock or Control microRNA transfected cells. At 48 hr after transfection, cells were transferred from 6-well to 24-well
plates and further incubated for 24 hr. A wound was formed by scraping and the wound measured after 24 hr (T24 cells) and 72 hr (J82 cells). E. Migration assay with mock or control microRNA transfected cells. At 72 hr after transfection, cells were added into the chamber. Cells were incubated for 4 hr at 37°C in a 5% CO2 tissue culture incubator, no migrated cells were removed from transwell membrane filter inserts using cotton-tipped swab and migrated cells were stained with Hema 3 STAIN SET. Representative photomicrographs are shown at 100x magnification.

**Supplementary Figure 4. Functional effects of miR-493 inhibitor in transfected SV-HUC-1 cells.**

A. MiR-493 expression levels in SV-CHU-1 cells were detected by using real-time PCR at 48 hr after transfection of miR-493 and control inhibitors. Data are presented as mean value ± SD for three independent experiments and compared to the level of control inhibitor transfected cells normalized as 1. B. Wound healing assay with miR-493 or control inhibitors transfected cells. At 48 hr after transfection, cells were transferred from 6-well to 24-well plates and further incubated for 24 hr. A wound was formed by scraping and the wound measured after 48 hr.

**Supplementary Figure 5. Functional effects of RhoC and FZD4 siRNA in transfected T24 cells.**

A. mRNA and protein expression level in Mock (without oligo-nucleotide), control and target siRNAs transfected T24 cells. Stealth RNAi siRNA were used as target siRNAs. B RhoC and FZD4 protein levels in T24 cells transfected with mock, control and target siRNAs. At 72 hr after transfection, total protein was extracted and analyzed by Western
blots. β-Actin was used as a loading control. C. Migration assay with mock, control and target siRNAs transfectants. Mock, control or target siRNAs were transfected into T24 cells. At 72 hr after transfection, cells were added into the chamber. Cells were incubated for 4 hr at 37°C in a 5% CO2 tissue culture incubator, non-migrating cells were removed from the transwell membrane filter inserts using a cotton-tipped swab and migrated cells were stained with Hema 3 STAIN SET. D. Wound healing assay with mock, control and target siRNA transfected cells. At 48 hr after transfection, cells were transferred from 6-well to 24-well plates and further incubated for 24 hr. A wound was formed by scraping and the wound measured after 24 hr.

**Supplementary Figure 6. miR-493 and RhoC/FZD4 sequences** A. miR-493 and RhoC using TargetScan. B. miR-493 and FZD4 using TargetScan. C. miR-493 and RhoC using microRNA.org. D. miR-493 and FZD4 using microRNA.org.