

Supplementary Figures

Supplementary Fig. 1. Karyotyping, DNA ploidy analysis, and aurora kinase A expression in cultured normal human urothelial cells, NU204. **A)** Normal chromosomal complement (46xy) of NU204 cells from passage six. **B-D)** Diploid DNA distribution for passages 4, 6, and 8 of NU204 cells, respectively. **Insets** show similar expression levels of aurora A in passages 4, 6, and 8 of NU204 cells compared to normal urothelium obtained from human ureters.

Supplementary Fig. 2. Age distribution patterns for cohorts of healthy controls, patients with benign urological disorders, and patients with TCC in the testing set. **Inset** shows the proportions of low- and high-grade TCCs and superficial versus invasive TCCs in the testing set.

Supplementary Fig. 3. Quantitative FISH analysis of aurora kinase A gene copy number in voided urine specimens from testing set (n=248). **A)** Summary of quantitative FISH analysis of 148 controls consisting of healthy individuals (n=92) and patients with benign urologic disorders (n=56). **Inset** shows a FISH analysis of aurora A FISH probe on metaphyseal chromosomes from lymphocytes of human peripheral blood. **B)** Summary of quantitative FISH analysis of 100 voided urine samples from patients with TCC. Low-grade papillary TCC (LGPTCC); high-grade papillary TCC (HGPTCC); high-grade nonpapillary TCC (HGNPTCC); carcinoma *in situ*, high-grade intraurothelial neoplasia (HGIN).