**Supplemental Figure Legends**

**Fig. S1 Bioinformatic analysis of *Hsp* mRNA from the publicly available data for mouse KI/R (GSE172042).**

**A.** Heatmap of 29 *Hsps* mRNA levels in kidneys of sham and KI/R mice.

**B.** mRNA levels of 29 *Hsps* in sham kidneys. Note that *Hspa12a* mRNA showed the highest level among these 29 *Hsps* in normal kidneys.

**C.** Effects of KI/R on mRNA levels of 29 *Hsps* in kidneys. Data are mean ± SD, **P* < 0.05 and ***P* < 0.01 by Student's two-tailed unpaired *t*- test or Mann–Whitney U test. *n* = 2-3.

**Fig. S2 Effects of KI/R on expression of HSPs.**

Expression of HSP32, HSP47, HSP60 and HSP70 were examined by immunoblotting in mouse kidneys following KI/R. Blots for GAPDH served as loading controls. Data are mean ± SD, ***P* < 0.01 by Student's two-tailed unpaired *t*- test. *n* = 3.

**Fig. S3 Identification of the isolated primary TEC.**

The primary TEC that isolated from mouse kidneys were immunostained with the epithelial marker CK-18 (red). DAPI was used to counter stain nuclei. Scale bar = 50 μm.

**Fig. S4 Time-effect on HSPA12A expression in primary TEC after reperfusion.**

The time-effect on HSPA12A expression in primary TEC at 0 h, 3 h, 6 h and 12 h after reperfusion were examined by immunoblotting. Blots for GAPDH served as loading controls. Data are mean ± SD, $^{**}P < 0.01$ by one-way ANOVA followed by Tukey's test. $n = 4$.

**Fig. S5 HSPA12A increases nuclear abundance of c-Myc in TEC after H/R.**

Nuclear fractions were prepared from H/R-treated TEC. c-Myc protein expression was examined by immunoblotting. Blots for H3 served as loading controls. Data are mean ± SD, $^{*}P < 0.05$ by Student's two-tailed unpaired *t*- test. $n = 4$.

**Fig. S6 Effects of HSPA12A on c-Myc mRNA and protein levels in primary TEC upon H/R.**

The following experiments were performed in primary TEC after H/R.

**A.** The mRNA levels of c-Myc were analyzed by RT-PCR. $^{*}P < 0.05$ and $^{*}P < 0.05$ by two-way ANOVA followed by Tukey's test. $n = 4$.

**B.** The protein levels of c-Myc were examined by immunoblotting. Blots for GAPDH served as loading controls. Data are mean ± SD, $^{*}P < 0.05$ and $^{**}P < 0.01$ by two-way ANOVA followed by Tukey's test. $n = 4$.

**C.** Immunostaining for c-Myc and ubiquitin was performed. DAPI staining was used to indicate nuclei. Data are mean ± SD, $^{**}P < 0.01$ by Student's two-tailed unpaired *t*- test. $n = 3$.

**Fig. S7 Knockdown of c-Myc in TEC after H/R.**

c-Myc knockdown in TEC was confirmed by immunoblotting. $^{**}P < 0.01$ by Mann–Whitney U test. $n = 5$/group.

**Fig. S8 C646 reverses the HSPA12A-increased c-Myc nuclear abundance in TEC.**

Nuclear fractions were prepared from H/R-treated TEC in the presence or absence of C646. c-Myc protein in nuclear fraction was examined by immunoblotting. Blots for H3 served as loading controls. Data are mean ± SD, $^{**}P < 0.01$ by one-way ANOVA followed by Tukey's test. $n = 4$.

**Fig. S9 Effects of HSPA12A on expression of glycolysis-related genes in primary TEC.**

**A.** ATP production rate was analyzed by the seahorse assay in primary TEC following H/R. Data are mean ± SD, $^{*}P < 0.05$ by Student's two-tailed unpaired *t*- test $n = 4$.

**B.** Expression of the indicated genes were examined by immunoblotting in primary TEC following H/R. Blots for GAPDH served as loading controls. Data are mean ± SD, $^{**}P < 0.01$ by two-way ANOVA followed by Tukey's test. $n = 3$.

**Fig. S10 Effects of HSPA12A on expression of glycolysis-related genes in mouse kidneys following KI/R.**

**A.** Lactate contents were analyzed in serum of mice following KI/R. Data are mean ± SD, $^{**}P < 0.01$ by Mann–Whitney U test. $n = 5$.

**B.** Protein expressions of glycolysis-related genes were determined by immunoblotting in KI/R kidneys of mice. Data are mean ± SD, $^{**}P < 0.01$ by Student's two-tailed unpaired *t*- test. $n = 5$ for GLUT1 groups and $n = 6$ for the other groups.

**Fig. S11 2-DG abolishes the HSPA12A-increaseed lactate generation and proliferation of TEC after H/R.**

**A.** The brief diagram of glycolysis pathway. 2-DG was used to block lactate generation.

**B.** Lactate contents in culture medium of H/R-treated TEC were measured in the presence or absence of 2-DG. Data are mean ± SD, $^{**}P < 0.01$ by one-way ANOVA followed by Brown-Forsythe and Welch test. $n = 5$.

**C.** Cell proliferation in H/R-treated TEC was indicated by EdU incorporation in the presence or absence of 2-DG. Data are mean ± SD, $^{**}P < 0.01$ by one-way ANOVA followed by Tukey's test. $n = 3$. Scale bar = 50 μm.

**Fig. S12 Effect of HSPA12A on nuclear abundance of Hif1α in KI/R kidney.**

**A. Experimental setting of primary TEC.**

**B.** Anti-Flag-HSPA12A immunoprecipitates prepared from H/R-treated TEC were immunoblotted with Hif1α. Input or IgG-immunoprecipitates served as positive or negative controls. Note that Hif1α was not recovered in Flag-tagged HSPA12A immunoprecipitates.

**C. Experimental setting of mouse kidneys.**

**D.** Following KI/R, nuclear fraction was prepared from kidneys for immunoblotting

against Hif1α. Blots for LaminA/C served as loading controls. Data are mean ± SD, $^{**}P < 0.01$ by Student's two-tailed unpaired *t*- test. $n = 5$.

**Fig. S13 Hif1α inhibition diminishes the HSPA12A-induced increase of proliferation of TEC after H/R.**

Cell proliferation was examined by EdU incorporation in H/R-treated *Hspa12a*$^{O/E}$ TEC in the presence or absence of YC-1. Data are mean ± SD, $^{**}P < 0.01$ by one-way ANOVA followed by Tukey's test. $n = 3$. Scale bar = 50 μm.

**Supplemental Tables**

**Table S1. SiRNA sequence used in the experiments**

| Species | Gene name | | Sequence (5'-3') |
|---|---|---|---|
| Mus | *Myc* | Sence | CCGUACAGCCCUAUUUCAUTT |
| | | Antisence | AUGAAAUAGGGCUGUACGGTT |

**Table S2. Antibodies used in the experiments**

| Antibody | Source | Company | Catalog No. |
|---|---|---|---|
| Anti-HSPA12A | Rabbit | Abcam | ab200838 |
| Anti-α-Tubulin | Mouse | ProteinTech | 66031-1-Ig |
| Anti-GAPDH | Rabbit | Bioworld Technology | AP0063 |
| Anti-c-Myc | Rabbit | ProteinTech | 10828-1-AP |
| Anti-L-lactyl lysine (Klac) | Rabbit | PTM BIO | PTM-1401RM |
| Anti-H3 | Rabbit | ProteinTech | 17168-1-AP |
| Anti-Flag | Mouse | Sigma-Aldrich | F1804 |
| Anti-PKM2 | Rabbit | ProteinTech | 60268-1-Ig |
| Anti-LDHA | Rabbit | Abcam | ab101562 |
| Anti-GLUT1 | Rabbit | Cell Signaling | #12939S |
| Anti-GLUT4 | Rabbit | Abcam | ab33780 |
| Anti-MCT4 | Rabbit | ProteinTech | 22787-1-AP |
| Anti-Hif1α | Rabbit | Abcam | ab2185 |
| Anti-Lamin A/C | Rabbit | ProteinTech | 10298-1-AP |
| Anti-IgG | Mouse | SantaCruz | sc-2025 |
| Anti-Cytokeratin 18 | Rabbit | Abcam | ab181597 |
| Anti-Ki-67 | Rabbit | Cell Signaling | #9449 |

**Table S3. Primers used in the experiments**

| Gene name | Primers | |
|---|---|---|
| *Cyclinb1 for mus* | Forward | AGAGCTATCCTCATTGACTGGC |
| | Reverse | AACATGGCCGTTACACCGAC |
| *Cyclind2 for mus* | Forward | TGAATTACCTGGACCGTTTCTTG |
| | Reverse | AGAGTTGTCGGTGTAAATGCAC |
| *Rcc1 for mus* | Forward | ACACAGGTCCCACAACACAG |
| | Reverse | GCCTTCGACTGAAGTGTCCC |
| *Cdk4 for mus* | Forward | ATGGCTGCCACTCGATATGAA |
| | Reverse | TGCTCCTCCATTAGGAACTCTC |
| *Cdc25a for mus* | Forward | TCCCTGACGAGAATAAATTCCCT |
| | Reverse | TCGATGAGGTGAAAGGTGTCG |
| *Actin for mus* | Forward | ATGACCCAAGCCGAGAAGG |
| | Reverse | CGGCCAAGTCTTAGAGTTGTTG |