**Supplementary Figure Legends**

**Figure S1.** The exogenous level of MECP2 enhances after transfection with MeCP2-overexpressing plasmid. A. The exogenous level of MECP2 after transfection in BGC-823 cells. B. The exogenous level of MECP2 after transfection in MKN-45 cells. Scale bars = 50 μm.

**Figure S2.** MECP2 regulates the FBXW7 mRNA expression in BGC-823 and MKN-45 cells. A. FBXW7 mRNA expression after transfection with MECP2-overexpressing plasmid. B. FBXW7 mRNA expression after transfection with methylation inhibitor Aza. C. FBXW7 mRNA expression after transfection with si-MECP2-1 and si-MECP2-2. \**P* < 0.001.

**Figure S3.** MECP2 doesn’t affect the mRNA expressions of Notch1, c-Myc and mTOR. A. c-Myc mRNA was detected in GC BGC-823 and MKN-45 cells after treatment with MECP2-overexpressing plasmid, methylation inhibitor Aza, MECP2-1 and si-MECP2-2. B. mTOR mRNA was determined in GC cells after treatment. C. Notch1 mRNA was measured in GC cells after treatment.

**Figure S4.** FBXW7 regulates the mRNA expressions of c-Myc, mTOR, Notch1, Hes1, MMP-2 and MMP-9. A. c-Myc mRNA was determined in GC BGC-823 and MKN-45 cells after transfection with FBXW7-overexpressing plasmid, si-FBXW7-1 and si-FBXW7-2. B. mTOR mRNA was measured in GC cells after transfection. C. Notch1 mRNA was examined in GC cells after transfection. D. Hes1 mRNA was measured in GC cells after transfection. E. MMP-2 mRNA was examined in GC cells after transfection. F. MMP-9 mRNA was detected in GC cells after transfection. \**P* < 0.001.

**Figure S5.** si-MECP2 and si-MECP2 + si-FBXW7 affects the mRNA expressions of c-Myc, mTOR, Notch1, Hes1, MMP-2 and MMP-9. A. c-Myc mRNA was measured in BGC-823 and MKN-45 cells after transfection with si-MECP2 alone or co-transfection with si-MECP2 and si-FBXW7. B. mTOR mRNA was examined in GC cells after transfection. C. Notch1 mRNA was detected in GC cells after transfection. D. Hes1 mRNA was examined in GC cells after transfection. E. MMP-2 mRNA was measured in GC cells after transfection. F. MMP-9 mRNA was detected in GC cells after transfection. \**P* < 0.01, as compared with NC-siRNA-transfected cells; \*\**P* < 0.01, as compared with si-MECP2-transfected cells.