

Figure S1. CycAΔ80 R211A mutant fails to bind to CDK2.

10  $\mu$ g of mtCycA WT,  $\Delta$ 80, or  $\Delta$ 80 R211A expression vector was transfected into HEK293 cells. Cell lysates were immunoprecipitated with anti-myc tag antibody and subjected to western analysis using anti-myc tag and anti-CDK2 antibodies.

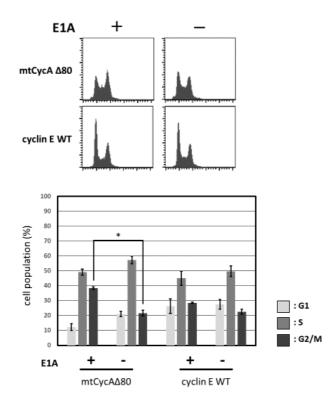


Figure S2. Cyclin E and E1A co-expression does not induce G2/M-phase arrest.

10  $\mu$ g of mtCycA $\Delta$ 80 or cyclin E WT expression vector was co-transfected with 5  $\mu$ g of E1A and 1  $\mu$ g of GFP vectors in MDAH041 cells, and cell cycle profiles of the GFP-positive cells were analyzed by flow cytometry (top). Cell cycle distributions are shown in the bottom panel. \*p <0.05

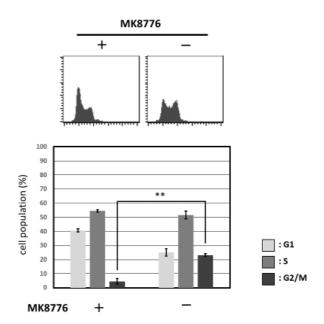


Figure S3. G2/M-phase arrest is also induced by CycA $\Delta$ 80 overexpression without E1A via ATR-Chk1 pathway.

MDAH041 cells co-transfected with 10  $\mu$ g of mtCycA $\Delta$ 80 and 1  $\mu$ g of GFP vectors were treated with 1  $\mu$ M MK8776 for 24h, and cell cycle profiles of the GFP-positive cells were analyzed by flow cytometry (top). Cell cycle distributions are shown in the bottom panel. \*\*p<0.01