## **Supplemental Data**



**Supplemental Figure 1.** Early apoptosis and late apoptosis/necrosis of OS cells co-treated with SCH and AAG. (**a-d**) Cells received the indicated concentrations of SCH and AAG for 48 hr. Cells were stained with Annexin V-FITC and PI/7-AAD and analyzed by FACS. Light gray bars: percent cells in early apoptosis (lower right quadrant of the plots). Dark gray bars: percent cells in late apoptosis or necrosis (upper right quadrant of plots).



Supplemental Figure 2. Effects of CDK inhibitors and Hsp90 inhibitors on OS survival. (a) OS1004 cells received various concentrations of AAG and either 10 nM SCH or 20  $\mu$ M roscovitine (Rosc) for 48 hr. (b) OS001 cells received various concentrations of AAG and either 10 nM SCH or 200 nM flavopiridol (Flav) for 48 hr. (c) OS1001 cells received 10 nM SCH, 100 nM AUY, and various concentrations of PD0332991 as indicated for 48 hr. (a-c) The percentage of cells in early apoptosis was determined by FACS analysis of annexin V-stained cells.



**Supplemental Figure 3.** Effects of inhibitors on H2AX phosphorylation. OS1002 cells on glass coverslips in 6-well plates received 20 nM SCH and 100 nM AUY for 12 hr. Cells were fixed with 4% paraformaldehyde for 15 min at room temperature and permeabilized with 0.2% Triton X-100 in phosphate-buffered saline for 10 min at room temperature. After a 1 hr incubation in blocking buffer (phosphate-buffered saline containing 0.1% Triton X-100, 3% bovine serum albumin, and 10% goat serum), cells were immunostained overnight at 4°C with a 1/400 dilution of anti-phospho-histone H2AX (serine 139) antibody (Cell Signaling) in blocking buffer. Primary antibody staining was developed with secondary antibody conjugated to Alexa Fluor-488, and coverslips were mounted with Vectashield mounting medium containing DAPI (Vector Laboratories). Cells were analyzed with a Zeiss upright fluorescent microscope at 200× magnification. A representative field is shown. Percentages of control and treated H2AX-positive cells are 12.6 and 10.4, respectively.