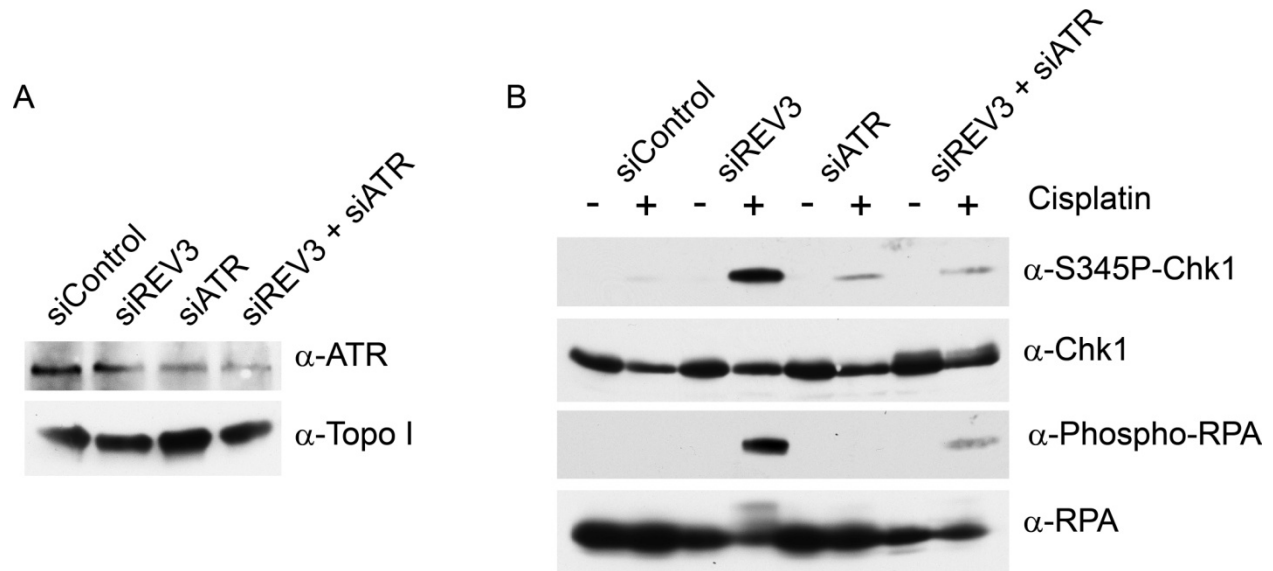


**Figure S1 Time-dependent and dose-dependent induction of  $\gamma$ -H2AX in REV3-deficient HeLa cells treated with platinating agents.** Control or REV3-specific siRNA-transfected cells were treated with the indicated concentrations of drug for one hour. Cells were fixed 8, 24, or 48 hrs post treatment and stained for  $\gamma$ -H2AX (green) and DAPI (blue) as described in materials and methods. Representative images from one experiment are shown.



**Figure S2. Cisplatin-induced hyper-phosphorylation of Chk1 and RPA32 in REV3-deficient cells is dependent upon the ATR kinase.** HeLa cells were transfected with Control, REV3, ATR, or a combination of REV3 and ATR-specific siRNA overnight. Cells were allowed to recover 24 hrs and then treated with 10  $\mu$ M cisplatin for 1 hr. Cells were harvested 24 hrs later and subjected to SDS-PAGE and immunoblotted with the indicated antibodies. A) Levels of ATR protein 48 hours after siRNA transfection. B) The phosphorylation status of Chk1 and RPA32 (serines 4 and 8) were examined in untreated and cisplatin-treated HeLa cells transfected with the indicated siRNAs. Representative images from two independent experiments are shown. ATR-specific siRNA was obtained from Qiagen, Valencia, CA (HP Validated siRNA, SI02664347). Polyclonal antibody specific for ATR was obtained by Abcam, Cambridge, MA.

**Figure S3, S4, S5, and S6. Time-dependent and dose-dependent induction and resolution of DSBs in REV3-deficient cells treated with cisplatin, oxaliplatin, picoplatin, and satraplatin.** HeLa cells were transfected with control or REV3-specific siRNA, and then treated with the indicated concentrations of drug for one hour. Cells were fixed 8, 24, or 48 hrs post treatment and stained for S1981P-ATM (green) and 53BP1 (red) as described in materials and methods. Nuclei were counterstained with DAPI. Representative images from a single experiment are shown:

**Figure S3 Cisplatin, page 3**

**Figure S4 Oxaliplatin, page 4**

**Figure S5 Picoplatin, page 5**

**Figure S6 Satraplatin, page 6**

