Cell Line	LD_{25} of Cisplatin (μg/ml)	LD_{50} of Cisplatin (μg/ml)
UMSCC-1	0.67	1.77
UMSCC-46	0.12	0.33
UMSCC-74A	1.53	3.07
UPCI SCC90	0.28	1.11

Supplemental Table 1: HNSCC cell lines were treated with a range of cisplatin doses for 72 hours, and cell death was assessed using an annexin/7AAD flow cytometry assay in at least two independent experiments performed in triplicate for each cell line. Cell death curves were generated to estimate the doses required to kill 25% (LD_{25}) or 50% (LD_{50}) for each cell line.

Supplementary Figure S1: Ovalbumin-expressing MOC1 tumor cells (T = target) were allowed to grow in 96-well plates in the presence or absence of cisplatin for 24 hours prior to adding antigen-specific OT-1 T cells (E = effector). Impedance measurements were taken over time to determine tumor cell viability. In B and C, Impedance lines are graphed as averages of 3 replicates that have been normalized to a cell index of 1.0 at 24 hours when CTLs were added. CTLs were pretreated separately with the indicated doses of cisplatin starting at time point 0 hours, then added to the wells with MOC1 ova cells and co-treated with cisplatin throughout the rest of the experiment. Graphs are representative of two independent experiments done in triplicate.

Supplementary Figure S2: Low-dose cisplatin and anti–PD-L1 blockade in combination modestly delayed tumor growth but did not prolonged survival in MOC1 tumor-bearing mice. Mice were injected with 5 x 10^6 MOC1 tumor cells in the right flank. After 11 days, mice with palpable tumors were randomized and treated concurrently with cisplatin (3 mg/kg/week x 4 weeks) and/or anti–PD-L1 antibody (200 mcg twice/week x 3 doses). Black line: control; Blue line: CDDP only; Gray line: anti–PD-L1; Green line: combination. Data are from the same experiment shown in Fig. 3. **A,** Tumor volume over time. Data are

mean ± SEM, n = 7-8 mice per group. **$p<0.01$ vs. control by linear regression curve comparison. **B,** Kaplan-Meier survival plot.

Supplemental Figure S3: Cisplatin and anti-PD-L1 blockade induced a slight but short-lived delay of tumor growth in MOC2 tumor-bearing mice that did not improve survival. Mice were injected with 1 x 10^5 MOC2 tumor cells in the right flank. After 14 days, mice with palpable tumors were randomized and treated concurrently with cisplatin (5 mg/kg/week) and/or anti-PD-L1 antibody (200 mcg twice/week x 3 doses). Black line: control; Blue line: CDDP only; Gray line: anti–PD-L1; Green line: combination. **A,** Tumor volume over time. Data are mean ± SEM, n = 8 mice per group. *$p<0.05$ vs. control by linear regression curve comparison. **B,** Kaplan-Meier survival plot.

Supplemental Figure S4: Moderate doses of cisplatin and anti-PD-1 do not cause significant kidney toxicity or hearing loss. A, kidneys were harvested from MOC1 tumor-bearing mice upon euthanasia, sectioned, and stained with H&E. Examples shown are representative of at least three different animals per treatment group. B and C, hearing was assessed in control or cisplatin-treated, MOC1 tumor-bearing mice after 6 weeks of treatment by measuring auditory brainstem response thresholds (B) and distortion product otoacoustic emission amplitudes (C). Data are mean (B) ± SEM (C) from two mice per group.