Supplementary Figure Legends

Supplementary Figure 1. Expression of p53 target genes is impaired following cisplatin treatment in HNSCC harboring mutant TP53. Western blot of isogenic HNSCC cell line, UMSCC1, that stably expresses wildtype or mutated p53 (Panel A). p21 reporter luciferase activity of the same UMSCC1 isogenic cells lines (Panel B). Quantitative RT-PCR of p21, MDM2 and Noxa in UMSCC1 isogenic cells lines (Panel C). CDDP is abbreviation for cisplatin. * defined as a significant change, p<0.05, from cisplatin treated wtp53. ƚ defined as significant increase in activity or expression above basal levels.

Supplementary Figure 2. TP53 knockdown illustrates both loss and gain of function in vitro in HNSCC cells. TP53 was knocked down by shRNA in the isogenic pair of cell lines HN30 (wtp53) and HN31 (high risk p53 mutation). Cisplatin sensitivity was determined by the clonogenic survival assay. Inhibiting wildtype p53 in HN30 (A) made cells more resistant to cisplatin, while inhibiting mutant p53 in HN31 (B) made cells more sensitive to cisplatin.

Supplementary Figure 3. Effect of cisplatin therapy on tumor growth and survival in an orthotopic nude mouse model of oral tongue cancer harboring TP53 mutations. Comparison of tumor growth inhibition with cisplatin therapy across the TP53 constructs in isogenic cells lines, PCI-13, UMSCC1, HN30, and HN31 by an area under the curve analysis (AUC).