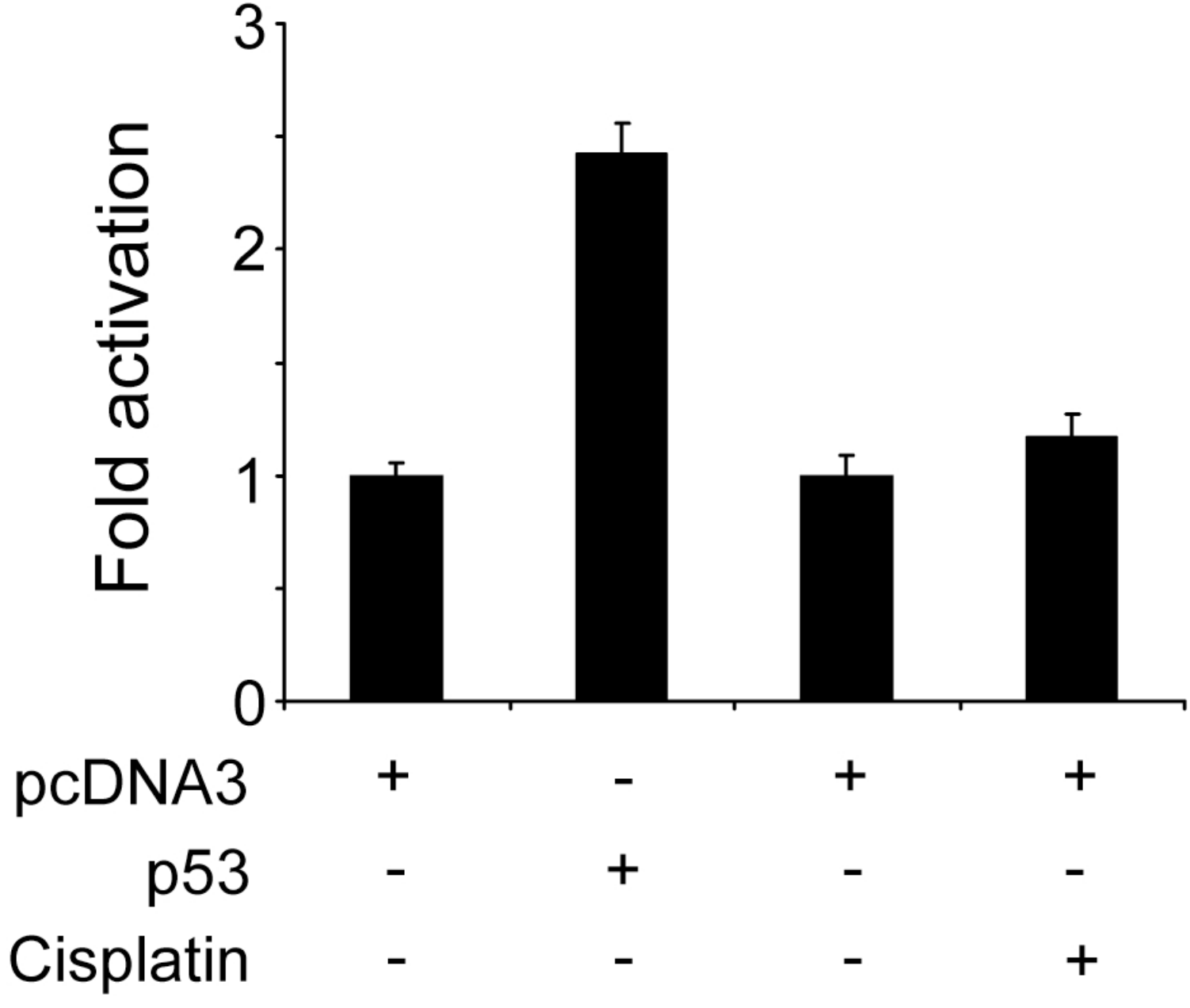
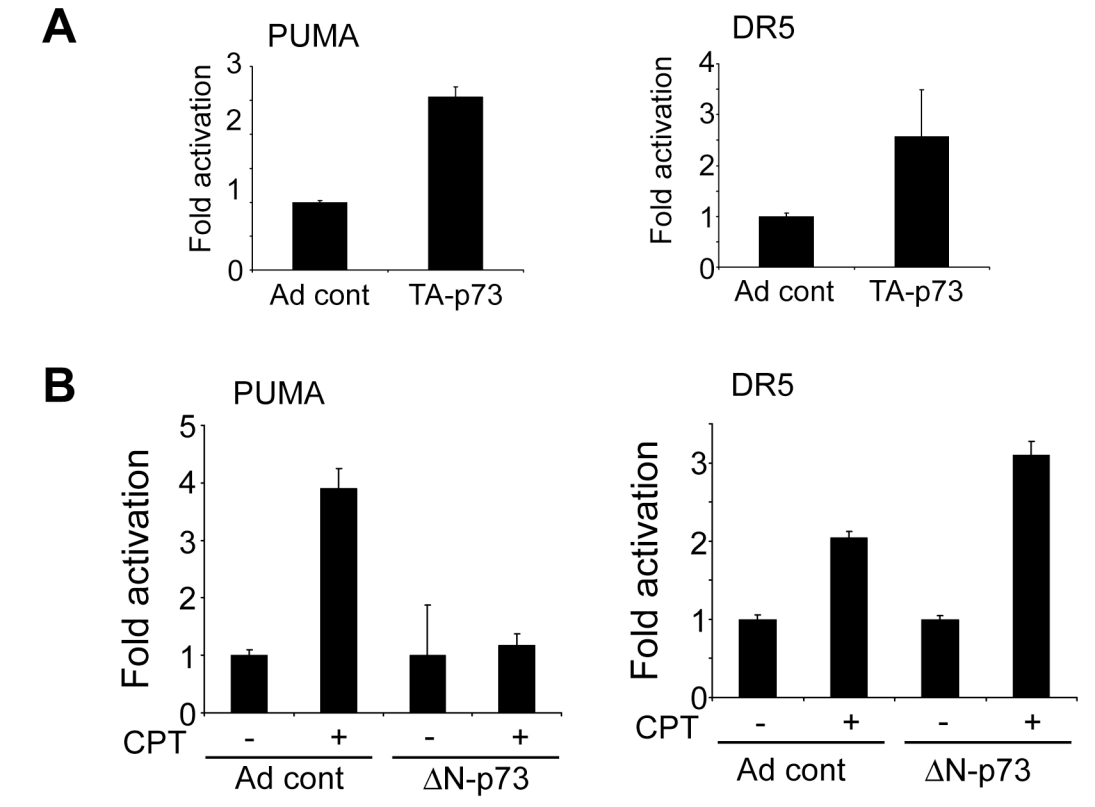
Supplementary Figure 1



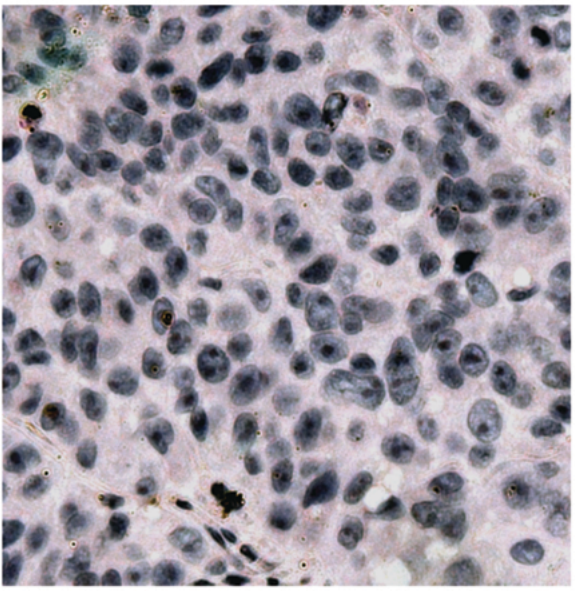
Supplementary Figure 2



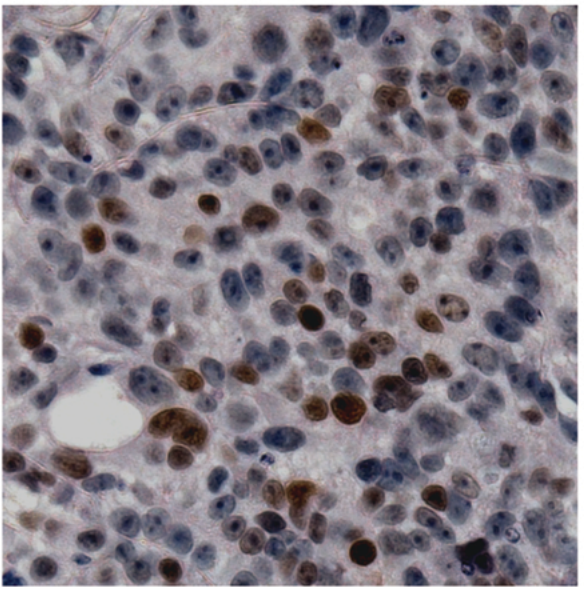
Supplementary Figure 3

No treatment Tail vein injection Intratumoral injection

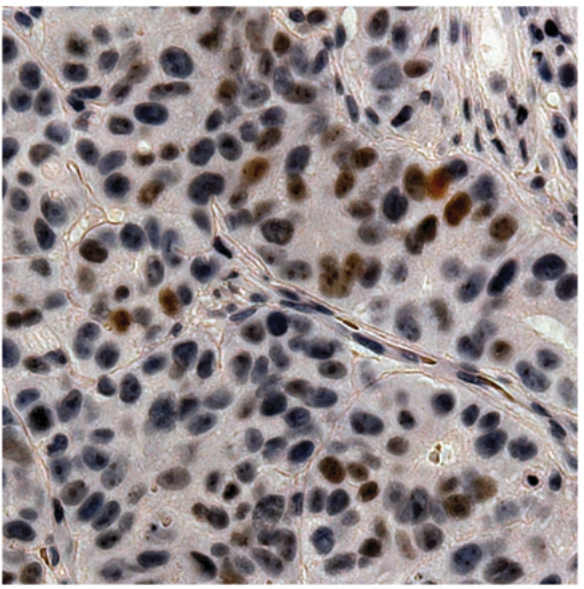
Supplementary Figure 4



Dendrimer alone

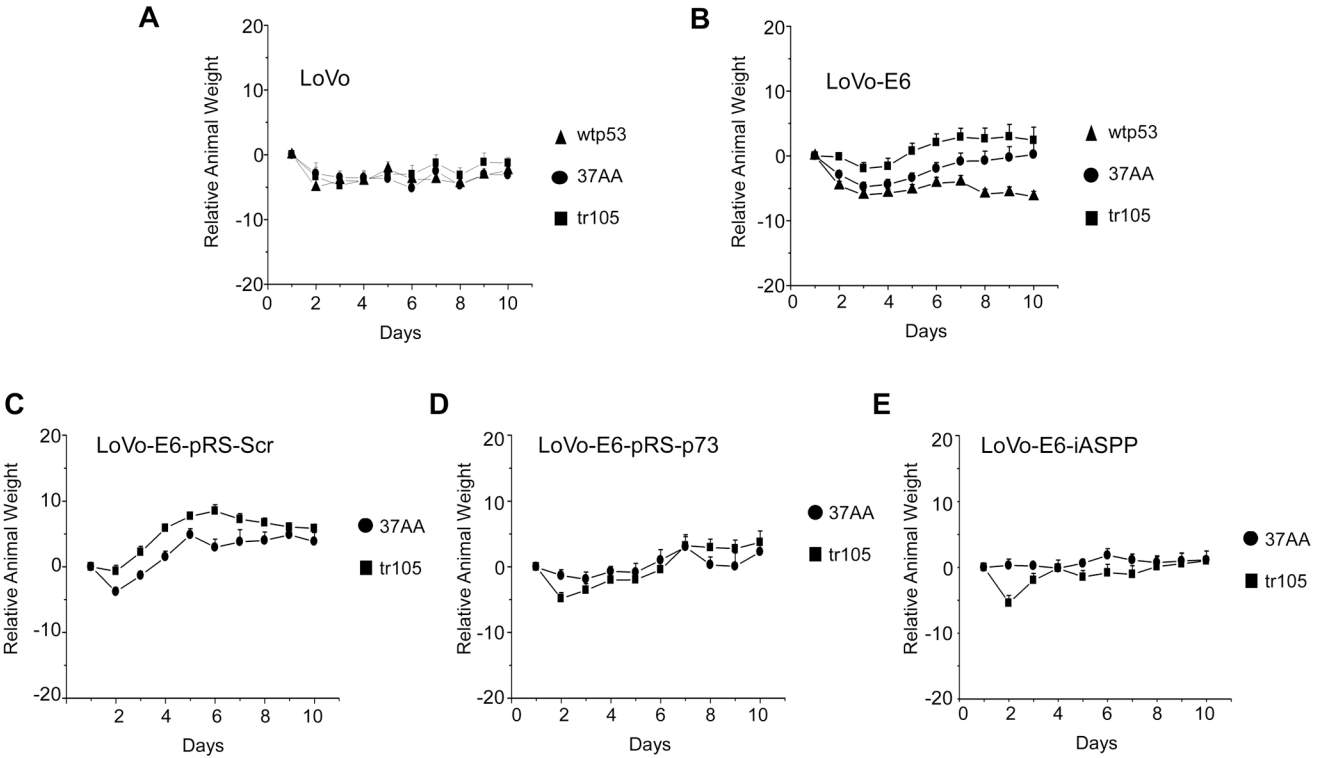


p53



tr105

Supplementary Figure 5



Supplementary Figure Legends

Supplementary Figure 1: DNA damage does not induce activation of a PUMA luciferase. H1299 cells were transiently transfected with 5μg of PUMA luciferase plasmid and 200ng of either pcDNA3 or pcDNA3-p53. Where indicated cells were treated with 25μM cisplatin for 24h before analysis for relative luciferase activity.

Supplementary Figure 2: Exogenous TA-p73 and DNA-damage induced p73-dependent gene expression changes are comparable in extent to those seen following treatment with 37AA. (**A**) Saos-2 cells were infected with adenoviral p73 or empty control virus and the levels of mRNA for PUMA and DR5 determined by qPCR. (**B**) H1299 cells that had been infected with either adenoviral p73 or empty control virus were treated where indicated with 25μM cisplatin for 24h. mRNA levels of PUMA and DR5 were determined by qPCR.

Supplementary Figure 3: Intravenous dendrimer delivery causes efficient and highly specific tumor delivery. Mice were treated either systemically (tail vein injection) or intratumorally with dendrimer complexes containing 50μg of pCMV-β-galactosidase. After 24h, the mice were sacrificed and tumors stained for b-gal. A tumor that received no treatment is shown for comparison. The tumors shown are representative of what was seen in several animals.

Supplementary Figure 4: Plasmid expressing wt-p53 and tr105 show comparable levels of intratumoral expression following intravenous dendrimer delivery. Mice with LoVo-derived tumors were treated on a 2 day schedule with 3 treatments of dendrimer:DNA complex. Each injection was administered via tail vein injection and comprised dendrimers containing 50μg of either: wt-p53, tr105 or dendrimer alone. Mice were sacrificed and tumors sectioned and stained with an antibody raised against the N-terminus of p53. Positive cells are brown.

Supplementary Figure 5: Tail vein delivery of dendrimer:DNA complexes do not affect animal weight. At the time points where tumor growth was monitored as described in Figure 6, animals were weighed to assess if treatments were detrimental to animal health. Weight change was assessed relative to untreated healthy controls.