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**Supplemental Information**

**Systemic Delivery of CRISPR/Cas9 Targeting  
HPV Oncogenes Is Effective at Eliminating  
Established Tumors**

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## Supplementary Data

**Table 1** shows the sequences of the target sites within each gene, and the repair template sequences used for HDR repair

Name	Target sequence 5'>3'	Binding site	Expected cut site within the target gene
HPV-16 E6 T1	<u>Ccactgtgtcctgaagaaaagca</u>	349-369	382
HPV-16 E6 T2	Tccataatataaggggt <u>cgg</u>	394-411	
HPV-16 E7 T1	<u>Ccggacagagcccattacaatat</u>	141-162	169
HPV-16 E7 T2	Gcaagtgtgactctacgctt <u>cgg</u>	176-195	
HPV-18 E6 T1	<u>Ccataaatgtatagattttta</u>	197-215	228
HPV-18 E6 T2	Ttattcagactctgtgtat <u>gg</u>	240-258	
HPV-18 E7 T1	<u>Ccggttgaccttctatgtca</u>	66-83	96
HPV-18 E7 T2	Gaaaacgatgaaatagat <u>gg</u>	108-125	
Control gRNA	tcgtactctacagcagatgc		
Name	Template sequence		
HPV-16 E6 repair template	attaactgtc aaaagccact gtgtcctgaa gaaaagcaaa gacatctgga <b>caattaataagtaagcaa</b> agattccata atataagggg tcggtggacc ggtc gatgta tgtctgttg		
HPV-16 E7 repair template	aatagatggt ccagctggac aagcagaacc ggacagagcc cattacaata ttgtaacct <b>aattaatt</b> ttgttgcaag tgtgactcta cgcttcggtt gtgcgtacaa agcacacacg tagacattcg		

Underlined nucleic acids are the protospacer-adjacent motif, nucleic acids highlighted in bold represent the inserted modification (stop codon and *AseI* restriction site), T1: target 1, T2: target two.

**Supplementary figure 1: PEGylated liposomes effectively protected plasmid DNA against serum-mediated degradation and delivered payloads out of bloodstream (I) The integrity of plasmid DNA packaged in PEGylated liposomes after incubation in serum (in hours). (II) The time from the injection of plasmid DNA packaged in liposomes to its systemic uptake in tissues and organs (in hours).**

