

Supplemental Table 1: List of Plasmids used in this study

Name	Source	Information
5HRE/GFP	Addgene 46926	Used to PCR out the 5xHRE promoter using oligos HRE1-2 and cloned using NEBuilder® HiFi DNA Assembly into JDS246 (NotI/MluI digested) and pcDNA3-luciferase (HindIII/MluI digested)
pRRIsinPGK_BFP2_WPRE	Addgene 91787	Used to PCR out the hPGK promoter using oligos PGK1-2 and cloned using NEBuilder® HiFi DNA Assembly into JDS246 (NotI/MluI digested) and pcDNA3-luciferase (HindIII/MluI digested)
pcDNA3-ffluc	This lab	Expresses firefly luciferase from a CMV promoter.
pcDNA3-ffluc-shortODD	This lab	Expresses firefly luciferase short ODD fusion protein driven from a CMV promoter.
pcDNA3-ffluc-longODD	This lab	Expresses firefly luciferase long ODD fusion protein driven from a CMV promoter.
PGK-ffluc	This lab	Expresses firefly luciferase from a PGK promoter.
PGK-ffluc-shortODD	This lab	Expresses firefly luciferase short ODD fusion protein driven from a PGK promoter.
PGK-ffluc-longODD	This lab	Expresses firefly luciferase long ODD fusion protein driven from a PGK promoter.
5HRE-ffluc	This lab	Expresses firefly luciferase from a 5HRE promoter.
5HRE-ffluc-shortODD	This lab	Expresses firefly luciferase short ODD fusion protein driven from a 5HRE promoter.
5HRE-ffluc-longODD	This lab	Expresses firefly luciferase long ODD fusion protein driven from a 5HRE promoter.
pAL119-TK	Addgene 21911	CMV driven HSV-TK
CMV-HSV-tk-mut30	This lab	Expresses HSV-tk mutant 30 (L159I, I160L, F161A, A168Y, L169F) from a CMV promoter
5HRE-HSV-tk	This lab	5HRE driven HSV-TK
5HRE-HSV-tk-mut30	This lab	Expresses HSV-tk mutant 30 (L159I, I160L, F161A, A168Y, L169F) from a 5HRE promoter
3XFLAG-Cas9	This lab	Expresses Cas9 nuclease with N-terminal 3X FLAG from CBh promoter (CMV early enhancer; ch-beta actin promoter; chimeric ch-beta actin MVM intron). Does not contain any gRNA or fluorescent tag.
5HRE-Cas9	This lab	5HRE driven expression of spCas9. Does not contain any gRNA or fluorescent tag.
eGFP gRNA	This lab	Expresses "GACGTAGCCTTCGGGCATGG" gRNA for spCas9 targeting eGFP from a H1 promoter
AluY gRNA	This lab	Expresses "ACCTGTAGTCCCAGCTACTC " gRNA for spCas9 targeting AluY repeats from a H1 promoter
PLK1 gRNA-1	This lab	Expresses "ACCTCGGGAGCTATGTAATT " gRNA for spCas9 targeting PLK1 gene from a H1 promoter
PLK1 gRNA-2	This lab	Expresses "CGACTTCGTGTTCTGGTGT " gRNA for spCas9 targeting PLK1 gene from a H1 promoter
PLK1 gRNA-3	This lab	Expresses "TGCTGCTCAAGCCGCACCAG " gRNA for spCas9 targeting PLK1 gene from a H1 promoter. Best candidate that was used in all Cas9 experiments in Fig. 3-4
CBh-Cas9 BbsI gRNA	This lab	Expresses Cas9 from a CBh promoter, in addition to "GACGTAGCCTTCGGGCATGG" gRNA for spCas9 targeting eGFP from a U6 promoter
CBh-Cas9 AluY gRNA	This lab	Expresses Cas9 from a CBh promoter, in addition to "ACCTGTAGTCCCAGCTACTC " gRNA for spCas9 targeting AluY repeats from a U6 promoter
CBh-Cas9 PLK1 gRNA	This lab	Expresses Cas9 from a CBh promoter, in addition to "TGCTGCTCAAGCCGCACCAG " gRNA for spCas9 targeting PLK1 gene from a U6 promoter
HRE-Cas9 BbsI gRNA	This lab	Expresses Cas9 from an HRE promoter, in addition to "GACGTAGCCTTCGGGCATGG" gRNA for spCas9 targeting eGFP from a U6 promoter
HRE-Cas9 AluY gRNA	This lab	Expresses Cas9 from an HRE promoter, in addition to "ACCTGTAGTCCCAGCTACTC " gRNA for spCas9 targeting AluY repeats from a U6 promoter
HRE-Cas9 PLK1 gRNA	This lab	Expresses Cas9 from an HRE promoter, in addition to "TGCTGCTCAAGCCGCACCAG " gRNA for spCas9 targeting PLK1 gene from a U6 promoter

pLenti-EF1a-GFP-ffluc-BSR	This lab	Third generation lentiviral packaging construct expressing GFP, ffluc and blasticidin resistance gene from an EF1a promoter
pMDLg/pRRE	Addgene 12251	3rd generation lentiviral packaging plasmid; Contains Gag and Pol
pRSV-Rev	Addgene 12253	3rd generation lentiviral packaging plasmid; Contains Rev
pMD2.G	Addgene 12259	VSV-G envelope expressing plasmid