

Name	Purpose	Sequence
NM721	subcloning dCas9-Mxi / TetR expression cassette	TTCCGTTGGTAGATACGTTGTTGACACTTCTAAATAAGCGCATAGCTTCAAATGTTTCT
NM734	subcloning dCas9-Mxi / TetR expression cassette	TTTTAAACCTAAGAGTCACTTTAAATTTGCAAATTAAAGCCTTCGAGC
NM613	Sanger sequencing of pNTI647	CCTCGATAAGGTGCTTCTGC
NM614	Sanger sequencing of pNTI647	CCAGATTCGCGTGGATGACT
NM616	Sanger sequencing of pNTI647	GGCGTACCATGAAAAGTACCC
NM617	Sanger sequencing of pNTI647	CCCCAAGAAATACGGCGGAT
NM619	Sanger sequencing of pNTI647	GAACTGGGGTCCCAAATCCT
NM620	Sanger sequencing of pNTI647	GCTGGTCTCAGATTTCAGAAAGG
NM621	Sanger sequencing of pNTI647	GGTCTTCAATTTCTCAAGTTTCAGTT
NM622	Sanger sequencing of pNTI647	TGTCCTCACCCTTACGTTGT
NM623	Sanger sequencing of pNTI647	ACCTGTCAGACGCCATTCTG
NM726	Sanger sequencing of pNTI647	CAGACGACAGATCTAAATGAC
NM727	Sanger sequencing of pNTI647	GCCATACATTAAAAGTTGAG
NM728	Sanger sequencing of pNTI647	CCGTGTACCTAAATGTACTTT
NM729	Sanger sequencing of pNTI647	AAGATCAAGAGCATCAAGTC
p698Fwd	subcloning <i>HIS3-MET17-URA3</i> cassette	TATTAGAAGAATATCCTGATATGCGGCATCAGAGCAGATT
p698Rev	subcloning <i>HIS3-MET17-URA3</i> cassette	CAACAATATTTTCACCTGAACATTTTAAATAAGGCAATAATATTAGGTATGT
NI-993	subcloning to replace <i>URA3</i> with <i>KlacLEU2</i>	GAAGGCTTTAATTTGCGGCCGGTACCCAGTTTAAACGAGCTCGATC
NI-994	subcloning to replace <i>URA3</i> with <i>KlacLEU2</i>	CGGTGATGACGGTGAAAACCGAATTCACCATTCAAATTGAACAG
NI-995	subcloning to replace <i>URA3</i> with <i>KlacLEU2</i>	TCTGTTCAATTTGAATGGTGAATTCGGTTTTCACCGTCATC
NI-996	subcloning to replace <i>URA3</i> with <i>KlacLEU2</i>	TTTTAATGTGTGCCGAACC
KS524	subcloning to remove dCas9-Mxi and TetR	CTCGTTTAAACTGGGTACCGGCCGCATAGCGAACGTGTAGGGCAG
KS525	subcloning to remove dCas9-Mxi and TetR	CTGCCCTACACGTTCGCTATGCGGCCGGTACCCAGTTTAAACGAG
NI-1019	subcloning to add barcoding site	TATACTAGTAATATGGTTCGGCACAC
NI-1020	subcloning to add barcoding site	ATCGAGCTCGCATGCAGTGGCGCGCCAGCTCGTTTAAACTGGGTAC
NI-1030	replacing gRNA cloning site	ATCAGGCGCGCCACTTCACGCATGCTCAAGAGCTCGATCCGCAGGCTAACCGGAA
KS528	Sanger sequencing of pNTI661	GTTCTTGGAACGCTGCCCTAC
KS529	Sanger sequencing of pNTI661	GTTGCAATGCCAAGAAAGCAGC
KS530	Sanger sequencing of pNTI661	GAGGGAAGGGGAATATATTGTGCCTG
KS531	Sanger sequencing of pNTI661	GCACGTGATGAAAAGGACCCAG
KS532	Sanger sequencing of pNTI661	GTTATCTACACGACGGGGAGTCAG
KS533	Sanger sequencing of pNTI661	CCTTTTGCTGGCCTTTTGCTC
NM636	Guide amplification and cloning	GGCTGGGAACGAAACTCTGGGAGCTGCGATTGGCA
NM637	Guide amplification and cloning	GCCTTATTTTAACTTGCTATTTCTAGCTCTAAAC
NI-1026	Barcode amplification and cloning	CGCCACTTCACGCATGCNNNNNNNNNNNNNNNNNNNNNNNAGATCGGAAGAGCGTCGT
NI-1027	Barcode amplification and cloning	TATCAGGCGCGCCACTTCACGCATGC
NI-1041	Barcode amplification and cloning	AGATCGGAAGAGCGTCGTGCTATAGTGAGTCGTATTACATGCTCAAGAGCTCGATCCGCA
NI-956	Barcode-to-guide assignment library PCR	GATCGGAAGAGCGTCGTGTAGGGAAAGAGGTAGATCTCGGTGGTCGCCGTATCATT
NI-1038	Barcode-to-guide assignment library PCR	GTGACTGGAGTTCAGACGTGTGCTCTTCCGATCTCGAAACTCTGGGAGCTGC
NI-1032	Barcode reverse transcription	GTGACTGGAGTTCAGACGTGTGCTCTTCCGATCTTATGCGGCCGGTACCCAG

Table S8. Oligonucleotide sequences used in this study.