

pX458 dual guideRNA cassette:

GATCGA GAAGAC CTCACCG NNNNNNNNNNNNNNNNNNNNN gtttagagctaGAAAtagcaagtta  
aaataaggctagtccggttatcaacttgaaaaagtggcaccgagtcggtgcTTTTT ACTGATAGA  
CTGGATCTGTTAGAAATGAGCCTA GAGGGCCTATTTCCCATGATTCCTTCATATTTGCATATACGA  
TACAAGGCTGTTAGAGAGATAATTGGAATTAATTTGACTGTAAACACAAAGATATTAGTACAAAA  
TACGTGACGTAGAAAGTAATAATTTCTTGGGTAGTTTGCAGTTTAAAATTATGTTTTAAATGG  
ACTATCATATGCTTACCGTAACCTGAAAGTATTTTCGATTTCTTGGCTTTATATATCTTGTGGAAA  
GGACGAAACACCG NNNNNNNNNNNNNNNNNNNNN GTTTGG GTCTTC GATAGG

BbsI binding motif      ▲▼ BbsI cut sites      GuideRNA sequence      GuideRNA scaffold

Spacer sequence      Second U6 promoter

GuideRNA sequences used in the present study:

- MIR155HG      gRNA 1: GGAGCATATGGGACTTCGGT
- MIR155HG      gRNA 2: GCTCTCCCTCGTAAAACGTG
- MIR146aHG      gRNA 1: TAGCAGGTAGCCCGAATTAT
- MIR146aHG      gRNA 2: CCTAAGAGCACCATATTTAC
- MALAT1      gRNA 1: CGTGTAGCTATCAAGGGCCA
- MALAT1      gRNA 2: CGCCCGAGCTGTGCGGTAGG