Supplementary file 1. sgRNA vectors used in this study.

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| vector | description | 1st sgRNA sequence | 2nd sgRNA sequence |
| sg*Jon25Biii* | Single sgRNA vector | GAAATCAAAGAAACTCTAGG |  |
| sg*Sdr* | Single sgRNA vector | AGAATGAAAATCAAAGGTGG |  |
| sg*CG9877* | Dual-sgRNA vector | ATATTGTGTGGATATTGTAT | CTAATACGAACGCGATATTT |
| sg*CG8468* vector 1 | Dual-sgRNA vector | ACACTGCTAGAACGTGTTGT | TCCGTCGCTACTCCATAGTG |
| sg*CG8468* vector 2 | Dual-sgRNA vector | CGTATACGACACAGTGTTCT | ACACTGCTAGAACGTGTTGT |
| sg*CG8468* vector 3 | Dual-sgRNA vector | GATGAAGGTGCTATTTGGTA | CTTCGGATTTGTTGGTTACA |
| sg*CG8468* vector 4 | Dual-sgRNA vector | CTTCGGATTTGTTGGTTACA | CGTATACGACACAGTGTTCT |
| sg*CG8468* vector 5 | Dual-sgRNA vector | TCCGTCGCTACTCCATAGTG | TGTTGGCAGTATAAACCGCG |
| sg*CG8468* vector 6 | Dual-sgRNA vector | TGTTGGCAGTATAAACCGCG | GATGAAGGTGCTATTTGGTA |
| sg*CG5399* vector 1 | Dual-sgRNA vector | TTGCAGGTAAGACAACCTAT | AAAAGATACAAGCCTATAAA |
| sg*CG5399* vector 2 | Dual-sgRNA vector | TGGAATGACTAATCCCCACG | TGGACACCGAATCTATTTCT |
| sg*CG5399* vector 3 | Dual-sgRNA vector | GTTTGTTTATACCTTTCAAG | TGGAATGACTAATCCCCACG |
| sg*CG5399* vector 4 | Dual-sgRNA vector | TGGACACCGAATCTATTTCT | GCCAGGCGCTCCACAAGTGC |
| sg*CG5399* vector 5 | Dual-sgRNA vector | AAAAGATACAAGCCTATAAA | GTTTGTTTATACCTTTCAAG |
| sg*CG5399* vector 6 | Dual-sgRNA vector | GCCAGGCGCTCCACAAGTGC | TTGCAGGTAAGACAACCTAT |
| sg*CG9932* vector 1 | Dual-sgRNA vector | GCCGAAGTCGCACGAACAAC | GAGCTGTTGGGTGTGCGGTT |
| sg*CG9932* vector 2 | Dual-sgRNA vector | GAGCTGTTGGGTGTGCGGTT | CTTCTTCGCTCTCTTAAGCG |
| sg*CG9932* vector 3 | Dual-sgRNA vector | AACGGCCGGTGCTAACAGAG | GCCGAAGTCGCACGAACAAC |
| sg*CG9932* vector 4 | Dual-sgRNA vector | TGCCACCGACTGGTTGGCGT | AACGGCCGGTGCTAACAGAG |
| sg*CG9932* vector 5 | Dual-sgRNA vector | CTTCTTCGCTCTCTTAAGCG | AGCGCGAGAGCAAGCGAACG |
| sg*CG9932* vector 6 | Dual-sgRNA vector | AGCGCGAGAGCAAGCGAACG | TGCCACCGACTGGTTGGCGT |