

Supplemental Table 1: Primers for off-target analysis.

| Off target | Forward (5'→3') | Reverse (5'→3') | TM (°C) | Product size (bp) |
|-------------------|-------------------------|-------------------------|----------------|--------------------------|
| OFT1 | GACTGAGAGAGGAGAGTCAGAC | GTCTGCAGGAACTTCTCAACA | 60.8 | 627 |
| OFT2 | GTCTGCAGGAACTTCTCAACA | ATGTGACTAGCTGGATCCAAGT | 60.8 | 685 |
| OFT3 | AAGGCATTCTTCTGAGCATG | GATTTCTCAAGAGGCAGGTCAG | 62.7 | 499 |
| OFT4 | GGCTGTTGTATGGCATCACATA | TGAGCCACCAGGATTAATGAGA | 60.8 | 572 |
| OFT5 | ACCAATTGACTCTCAGTCGAGA | ACTCTGAAGTCACAGGTCAGAA | 60.8 | 428 |
| OFT6 | ACCTCACATTACCTTCTCCTCC | AACTACAACAAAGGGAGGCAAG | 62.7 | 476 |
| OFT7 | AACCGGAAACATTTAAGGGTC | GTCCCTTATCTTCAAGAGCTGC | 60.8 | 404 |
| OFT8 | AGCTGTTCTCTGTTTGTGTGT | AAAAACACAGCCAAAGCAATCC | 58.9 | 696 |
| OFT9 | GGAGAGACCAGAGGAATCAGAA | CTTGAAGCAAGGCCAGTGATAT | 60.8 | 705 |
| OFT10 | ACTATCCTCACAAATCCCGTCA | TTCACCCCATAGACAACAGGAT | 60.8 | 485 |
| OFT11 | AAGTGTTGACAGATCTGGCAA | ACTTGTGCTGCTCAAAATGTTG | 58.9 | 361 |
| OFT12 | CTCTACCGTACCAAACACACTG | CTTTGAAGATGGAGGAGGATGC | 62.7 | 425 |
| OFT13 | TTCAGACAAAGAAGCCAAGAC | TACCATCTGAGCCATGAAGGAA | 60.8 | 739 |
| OFT14 | AGACCCAGCACAAACCAATAAG | TGTGGGCTTTGGACTACATTTC | 60.8 | 294 |
| OFT15 | TACTATGGATGACTGACCACCC | GAACATGCTCTTTAGTCCAGGG | 62.7 | 437 |
| OFT16 | TGTCTCATCCTGGTGTGTTTTTC | ACCAAATGGTCAGACCTCAAAC | 60.8 | 259 |
| OFT17 | TTATCCAACCAAGGCAAACCTGT | AGTGCCATGTTAATGTGCTCA | 58.9 | 384 |
| OFT18 | GGAAGAGACAAAGGGAAAGCAA | AGAGTCAGACACAACCTGAGTGA | 60.8 | 320 |
| OFT19 | GCACAAAAGGATTTCAATTCGGG | CATCCGTCCATGTAATAGCCTG | 60.8 | 576 |
| OFT20 | TATCCCACTTGTCTGGTGTTA | GAAGTGGGTCCTTGTGCATTTA | 60.8 | 474 |