

## ZKO478

Target Position: exon 4

Sense Strand Sequence

aaatctgaggaaatgtggg cctaccaatagctaaagccaactactaccactaactattaataagcagcaaattagaagtt  
tattgagctaaaagtcataataaagtgataaattcacaagaattgtacctaaaataaagtgatgaattttctcctatgtaa  
gcttttaagtgttgatgatttcttttattcagCTCCCATGTCAGTGAAAGAGGTATTGCAGAGTCTGGTGG  
ATGATAACATGGTGGACACTGAGAGGGTGGGCACCTCCA ACTATTACTGGGCGTTTCCTAGTA  
AAGCACTGCATGCCCGAAAACGCAGGTTAGAGGAACTGGAGAAACA Agtgaggacatctctctttc  
ttatatctcttattaatc agcttgcttattggtatgc

Uppercase: Exon/coding sequence

Lowercase: intron/noncoding sequence

atcg : Forward/Reverse primer

atcg : cas9 target site

### ZKO478a: 2bp deletion, 3bp insertion

CLUSTAL format alignment by MAFFT FFT-NS-i (v7.215)

```
WT          ATAACATGGTGGACACTGAGAGGGTGGGCACCTCCA ACTA-TTACTGGGCGTTTCCTAGT
ZKO478a     ATAACATGGTGGACACTGAGAGGGTGGGCACCTCCA ACTAGGA ACTGGGCGTTTCCTAGT
*****
```

### ZKO478b: 6bp deletion

CLUSTAL format alignment by MAFFT G-INS-i (v7.215)

```
WT          ATAACATGGTGGACACTGAGAGGGTGGGCACCTCCA ACTATTACTGGGCGTTTCCTAGTA
ZKO478b     ATAACATGGTGGACACTGAGAGGGTGGGCACCTCCA -----ACTGGGCGTTTCCTAGTA
*****
```