

## ZK0638

Target position: exon1

Sense Strand Sequence

TTAGTGGGAATCTGGGCTGCATGGAAGAACAAGAACTCCGGCGTGATGGAGGGAACGGATC  
GCAGCGAGACTATTGGTCGGCGGAAGAGATATTGGATTATTTGTCGGCGCATTACCATGA  
CTG

Uppercase: Exon/coding sequence

Lowercase: intron/noncoding sequence

atcg : Forward/Reverse primer

atcg : cas9 target site

### ZK0638a: 20bp deletion, 4bp insertion

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

```
WT          AGGGAACGGATCGCAGCGAGACTATTATGGTCGGCGGAAGAGATAT-TGGATTATTTGTC
ZK0638a     AGGGAACGGATCGCAGCGAGACTAT-----ATATGTGGATTATTTGTC
          *****                                     **** *****
```

```
WT          GGCGCATTACCATGAC
ZK0638a     GGCGCATTACCATGAC
          *****
```

### ZK0638b: 17 bp deletion

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

```
WT          ATGGAGGGAACGGATCGCAGCGAGACTATTATGGTCGGCGGAAGAGATATTGGATTATTT
ZK0638b     ATGGAGGGAACGGATCGCAGCGA-----GAAGAGATATTGGATTATTT
          *****                                     *****
```