

## ZK078

Target Position: exon 2

Sense Strand Sequence

cctcataaaatgtctctctgatccacaggtcttagtcatgaacagtacaatgaatactacagtcagcATGAGCACCCAT  
CATGTATTTGTGTACGGCTCACTAAAGAAAGGCCAGCCAAACCACCACGAACTCTTGA ACTCT  
AACATGGTCAAGCTGAGTTCATCACCTGCGCCAGACCAAAGAGCCATACCCGCTGGTTATT  
GCCACCAAACACAACATTCCTTTTCTGCTGAATGTGCCCGGCTCTGGAAAGCAGGTCTCTGGT  
GAGATCTACAGCGTTGACCAGAAGATGCTGGAGTTCCTGGACTGGTTTGAGAAATGTCCAGA  
CTGGTACCAGCGCACTTCCATCCAGCTGGAGATCCTAAAGGGGAATGGAGAATCTGGAAGAA  
TTGAGGAGGCTTCTGTCTACAGCAAATAAATTTGAACCCGACTGGCTCAACAAGCCCACAC  
ATGAAAGTTATGATACCAATGGTGACCATGGACTGAAATTTGTGTGTGCGAGAAGACAGGAAA  
GATG

Uppercase: exon/coding sequence

Lowercase: intron/noncoding sequence

atcg : Forward/Reverse primer

atcg : cas9 target site

### ZK078a: 7bp deletion

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

```
WT          TGCCACCAAACACAACATTCCTTTTCTGCTGAATGTGCCCGGCTCTGGAAAGCAGGTCTC
ZK078a      TGCCACCAAACACAACATTCCTTTTCTGCTGAATGTGCCCGGC-----AGCAGGTCTC
*****
```

```
WT          TGGTGAGATCTACAGCGTTG
ZK078a      TGGTGAGATCTACAGCGTTG
*****
```

### >ZK078b: 4bp deletion, 20bp insertion

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

```
WT          TGCCACCAAACACAACATTCCTTTTCTGCTGAATGTGCCCG-----GCT
ZK078b      TGCCACCAAACACAACATTCCTTTTCTGCTGAATGTGCCCAGACTGCTCCAGAATGTGCC
*****,
```

```
WT          CTGGAAAGCAGGTCTCTGGTGAGATCTACAGCG
ZK078b      CTGGAAAGCAGGTCTCTGGTGAGATCTACAGCG
*****
```