

## ZK0476

Target Position: exon 4

Sense Strand Sequence

tcagAATGCCAAGTCCTTGTCTCCTCAGACAGCCTAGCGAAGGTGCAGGAGGTAGCAAGCTG  
GCTTTTGAAATGAACCAGGATCTGCTGTCTGGGGGGCAGCGGCAGCAGGGCGGCCAGCA  
GCAGAGACCGAGACCCGGAACGGCGGGGGCAGGTAACAGCATCTCAGGCCGCACACCTCA  
GCCCCAGCCGGAGCACCCGGACCAGGTGCTGGAGGAGCCGGAGCAAGAGGAGGCGCAGC  
AGCAGAGGAGAGAACCAGCTGAGGAGGAAGATGAGG

Uppercase: Exon/coding sequence

Lowercase: intron/noncoding sequence

atcg : Forward/Reverse primer

atcg : cas9 target site

### ZK0476a: 1bp insertion

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

```
WT          GGGGGGCAGCGGCAGCAGGGCGGCCAGC-AGCAGAGACCGAGACCCGGAACGGCGGGGG
ZK0476a     GGGGGGCAGCGGCAGCAGGGCGGCCAGCAAGCAGAGACCGAGACCCGGAACGGCGGGGG
*****
```

### ZK0476b: 3bp deletion 9bp insertion

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

```
WT          GGGGGGCAGCGGCAGCAGGGCGGCCAGCAGC-----AGAGACCGAGACCCGGAACGGC
ZK0476b     GGGGGGCAGCGGCAGCAGGGCGGCCAGCTTTCTCTGAGAGACCGAGACCCGGAACGGC
*****
```

```
WT          GGGGGCAGG
ZK0476b     GGGGGCAGG
*****
```