

Figure S1. Schematic representation of transcription activator-like effector nucleases (TALENs) plasmid structure targeting follicle-stimulating hormone (*fsh*) gene of channel catfish (*Ictalurus punctatus*). *CMV prmt* cytomegalovirus promoter, *NLS* nuclear localization signal, *BGH pA* bovine growth hormone polyadenylation signal, *AmpR* ampicillin resistance gene.

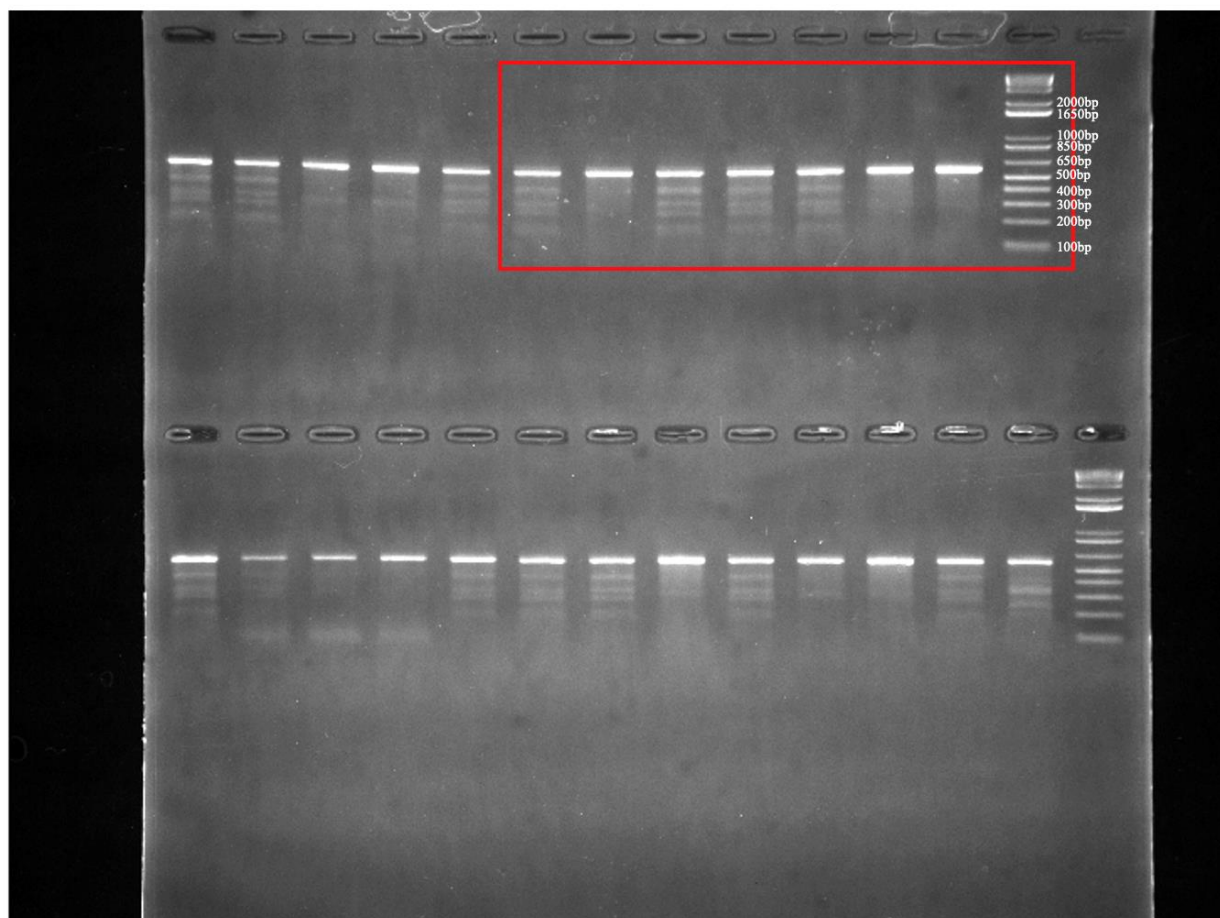


Figure S2. Original images of gels. The result of Surveyor mutation detection in Fig. 1 was shown. Red box represents the cropped area.

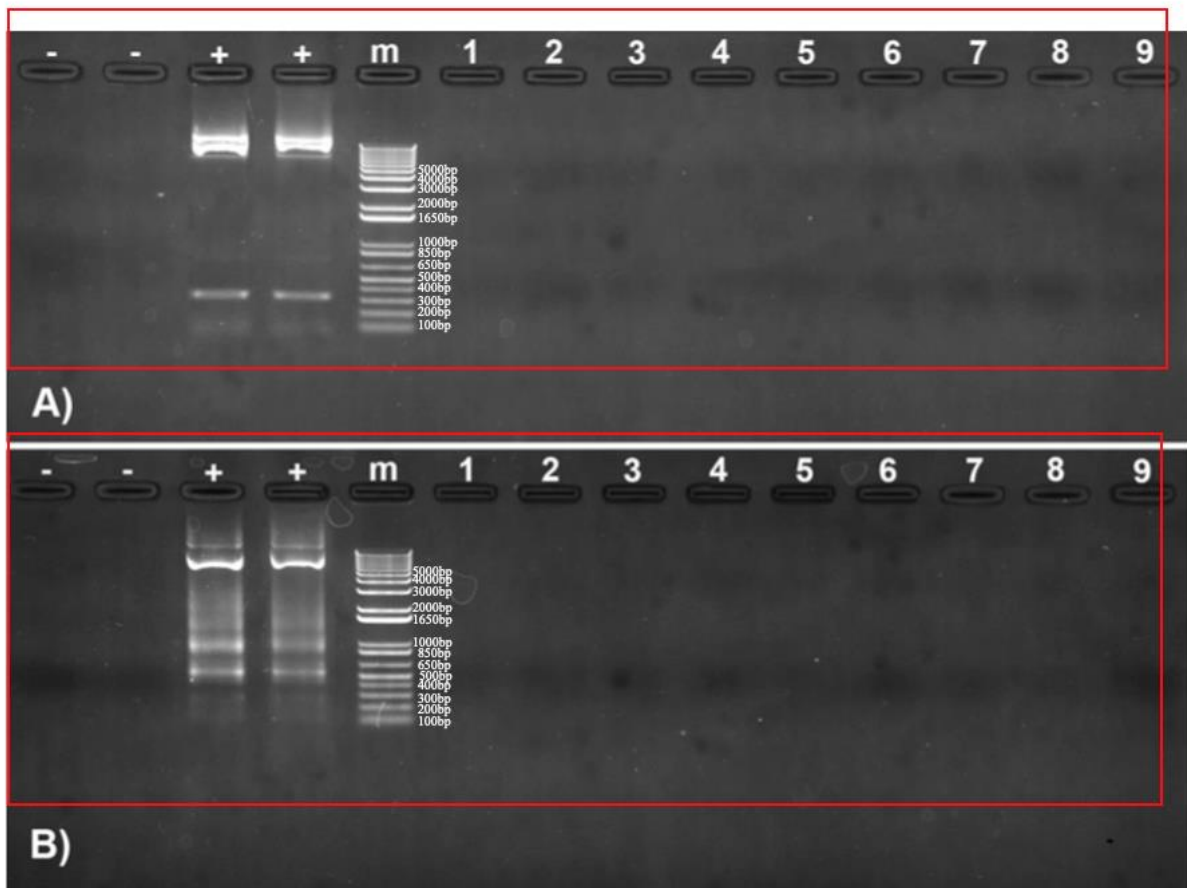


Figure S3. Original images of gels. The result of PCR inspection in Fig. 3 was shown. Red box represents the cropped area.

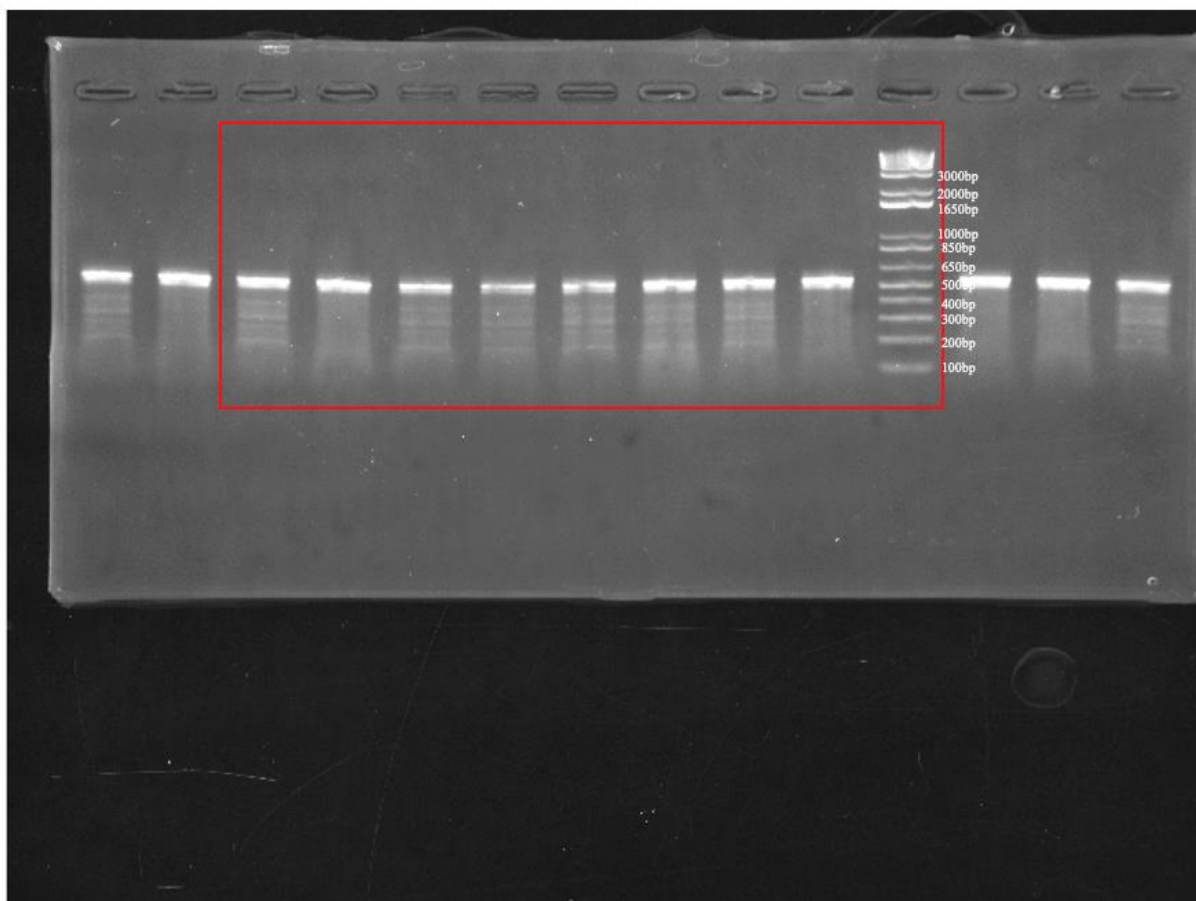


Figure S4. Original images of gels. The result of Surveyor mutation detection in Fig. 4 was shown. Red box represents the cropped area.

Table S1. Primer sequences used for the amplification of follicle-stimulating hormone (*fsh*), cytomegalovirus (CMV) promoter, and transcription activator-like (TAL) repeats regions in channel catfish (*Ictalurus punctatus*).

Targeting site	Sequence	Annealing temperature	Product length (bp)
<i>fsh</i> Forward	5'-CACAACTCCAGCTGTGACAA-3'	60 °C	550
<i>fsh</i> Reverse	5'-CAGAATTCCGTGGCCATTTA-3'		
CMV promoter Forward	5'-AACAACAACGGCGGTAAG-3'	60 °C	114
CMV promoter Reverse	5'-CCCATTATTGTTTCGCGATTG-3'		
TAL Repeats Forward	5'-GCATGACGGAGGGAAAC-3'	60 °C	215
TAL Repeats Reverse	5'-CCATTATTGTTTCGCGATTGA-3'		