Locus of interest

Undamaged double-stranded DNA with a locus of interest (allele A)

Custom-designed ZFN

ZFN-induced DSB with in allele A

(Homology-directed repair)

Exogenous donor DNA carrying a GOI and a SMG cassette (or a GOI and a SSR recombination attB site) flanked by homologous sequences of the allele A is used as template

Repairing of original DNA strands

Conversion of DNA sequence from A to $A'$ at the locus of interest