

Supplemental materials

Supplemental FIG. S1. Overexpression of *FEN-1* enhanced I-*SceI*-induced gene conversion in wild-type cells. The recombination frequency in the SCneo reporter construct is shown as the number of G418-resistant colonies derived from 10^7 cells transfected with the indicated plasmid. Expression vector of chicken *FEN-1* was cotransfected with the I-*SceI* expression plasmid into wild-type cells. The experiments were done more than four times.

Supplemental FIG. S2. Generation of *XPG*^{-/-} DT40 cells. (A) Schematic representation of targeted disruption of the chicken *XPG* gene. The chicken *XPG* locus, the two targeting constructs and the resulting targeted locus are shown. The black boxes indicate the exons of the *XPG* gene. The triangles flanking the blasticidin S resistance (*bsr*) and histidinol dehydrogenase (*hisD*) genes designate the loxP sequences. The italic B denotes a *Bam*HI site. The figure is not drawn to scale. (B) Southern blot analysis of targeted cells. *Bam*HI-digested genomic DNA of wild-type (+/+), heterozygous (+/-) and homozygous mutant (-/-) cells was hybridized with the probe shown in (A).

Supplemental table S1. Primers used in I-*SceI*-induced gene targeting assay

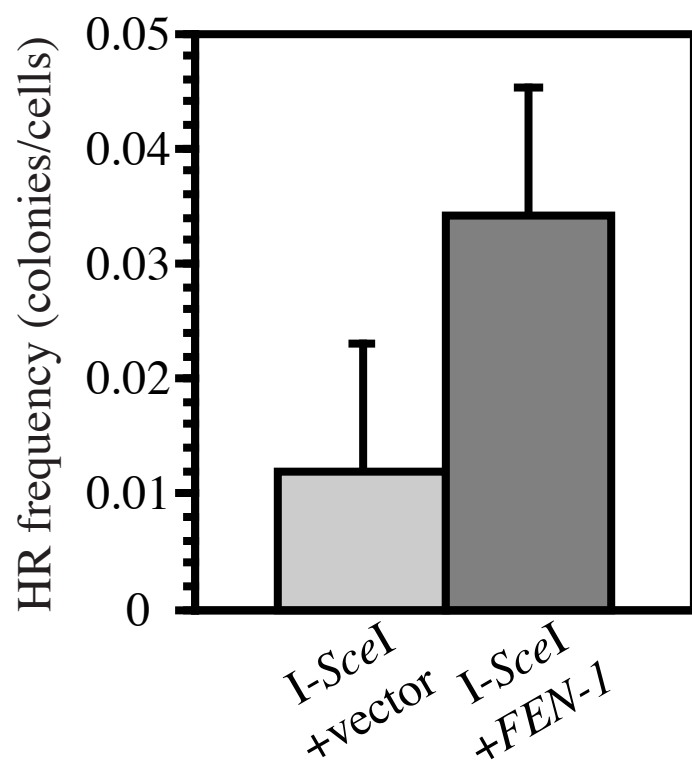
Name	Sequence
NeoS	GGATCGGCCATTGAACAAGATGGATTGCAC
NeoE	CCTCAGAAGAAGCTCGTCAAGAAGGCGATAG
Mneo-1 (+)	ATGCCCCGACGGCGAGGATCTCGTCGTGACCAGGGATAACAGG GTAATCGATGCCTGCTTGCCGAATATCATGGTGGA
Mneo-1 (-)	TCCACCATGATATTCGGCAAGCAGGCATCGATTACCCTGTTATC CCTGGTCACGACGAGATCCTCGCCGTCGGGCAT
Mneo-2 (+)	ATGCCCCGACGGCGAGGATCTCGTCGTGACCAGGGACAATAGG GTAATCGATGCCTGCTTGCCGAATATCATGGTGGA
Mneo-2 (-)	TCCACCATGATATTCGGCAAGCAGGCATCGATTACCCTATTGTC CCTGGTCACGACGAGATCCTCGCCGTCGGGCAT
Mneo-3 (+)	ATGCCCCGACGGCGAGGATCTCGTCGTGACCAGAGACAATAGA GTAATCGATGCCTGCTTGCCGAATATCATGGTGGA
Mneo-3 (-)	TCCACCATGATATTCGGCAAGCAGGCATCGATTACTCTATTGTC TCTGGTCACGACGAGATCCTCGCCGTCGGGCAT
Mneo-4 (+)	ATGCCCCGACGGCGAGGATCTCGTCGTGACCAGGGTAATCGATG CCTGCTTGCCGAATATCATGGTGGA
Mneo-4 (-)	TCCACCATGATATTCGGCAAGCAGGCATCGATTACCCTGGTCA CGACGAGATCCTCGCCGTCGGGCAT
Mneo-5 (+)	ATGCCCCGACGGCGAGGATCTCGTCGTGACCATCGATGCCTGCT TGCCGAATATCATGGTGGA
Mneo-5 (-)	TCCACCATGATATTCGGCAAGCAGGCATCGATGGTCACGACGA GATCCTCGCCGTCGGGCAT
Mneo-6 (+)	ATGCCCCGACGGCGAGGATCTCGTCGTGACCGATGCCTGCTTGC CGAATATCATGGTGGA
Mneo-6 (-)	TCCACCATGATATTCGGCAAGCAGGCATCGGTACGACGAGAT CCTCGCCGTCGGGCAT

Supplemental table S2. The gene targeting efficiencies at various loci in *FEN-1*^{-/-} cells.

	<i>OVA</i>	<i>RAD54</i>	<i>CENP-H</i>	<i>β-ACTIN</i>
Wild-type	29/41 (70.7%)	8/40 (20%)	40/48 (83.3%)	26/63 (41%)
<i>FEN-1</i> ^{-/-}	19/72 (26.4%)	2/51 (3.92%)	24/47 (51.1%)	37/87 (43%)
<i>FEN-1</i> ^{-/-} + <i>FEN-1</i>	15/34 (44.1%)	5/46 (10.9%)	N.D.	N.D.

Shown are the number of targeted clones over the number of clones analyzed. N.D., not determined.

S1



S2

A

