

S1 Table. Oligonucleotide list.

Name	Purpose	Sequence (5' → 3'), * =phosphorothioate bond, siRNAs are pools of the 4 listed
POLQ ex 16 A	sgRNA	GTCCGAATATGCGAACTATC
POLQ ex 16 B	sgRNA	GACTTGTACAGGCCACTAGTG
RAD52 exon 3	sgRNA	GTACATAAGTAGCCGCATGGC
RAD52 exon 4	sgRNA	GTGCTACATTGAGGGTCATC
RAD52 exon 9	sgRNA	GCCGGAGCTTCCGCTGGTGCG
RMR Reporter 5' edge DSB	sgRNA	ACCACCCTGACCTACGGCTA
RMR50 Reporter 3' edge DSB	sgRNA	GGCAGGGCAGCTTGCCATG
RMR23 Reporter 3' edge DSB	sgRNA	GTCAGGGTGGTACAGGATG
RMR18 Reporter 3' edge DSB	sgRNA	CGTAGGTCAGGGTGGTCATG
RMR6 Reporter 3' edge DSB	sgRNA	AGCACTGCACGCCCTAGATG
RMR47 Reporter 3' edge	sgRNA	GGGTAGCGGCTGAAGCAATG
Middle non-homologous insert (mid-ins)	sgRNA	GCCCGCAGCAACAGATGG
DR-GFP	sgRNA	GGATAACAGGGTAATACCTA
12-7-12	oligonucleotide	G*C*GGCTGAAGCACTGCACGCCGTAGGTCA*G*G
14-7-14	oligonucleotide	T*A*GCGGCTGAAGCACTGCACGCCGTAGGTCA*G*G
16-7-16	oligonucleotide	G*G*TAGCGGCTGAAGCACTGCACGCCGTAGGTCA*G*G
18-7-18	oligonucleotide	G*G*GGTAGCGGCTGAAGCACTGCACGCCGTAGGTCA*G*G
20-7-20	oligonucleotide	T*C*GGGGTAGCGGCTGAAGCACTGCACGCCGTAGGTCA*G*G
14-0-14	oligonucleotide	T*G*AAGCACTGCACGCCGTAGGTCA*G*G
LUC-oligo	oligonucleotide	A*C*ATTTCAAGTACTCAGCGTAAGT*G*A*T
PQ1	primer	CACCGACTTGTACAGGCCACTAGTG
PQ2	primer	CAGCCCTGAAAGACTCTG
PQ3	primer	AAACATGCTCCAGCTGATGGAAGT
pcDNA5 forward	primer	ATTGCATCGCATTTGTCTGAG
lacZ reverse	primer	GTTTTCCAGTCAAGGCTT
Actin forward	primer	ACTGGGACGACATGGAGAAG
Actin reverse	primer	AGGAAGGAAGGCTGGAAGAG
RMR1	primer	CGCAATGGGCGTAGGCGTG
RMR2	primer	TAGAAGGCACAGTCGAGG
RMR140	primer	ACGACCCCTAGGCCTCATGACGTAAACGCCCAAGTT
RMR101	primer	ACGACCCCTAGGCCTCATGAGGCGATGCCACTAC
RMR72	primer	ACGACCCCTAGGCCTCATCTGAAGTTCATCTGCACCA
RMR50	primer	ACGACCCCTAGGCCTCATGGCAAGCTGCCGTGCC
RMR23	primer	ACGACCCCTAGGCCTCATCTCGTACCCACCTGACCTA
RMR18	primer	ACGACCCCTAGGCCTCATGACCCCTGACCTACGG
RMR6	primer	ACGACCCCTAGGCCTCATCTACGGCGTGCAGTGCTT
Δ7 reporter	primer	ACGACCCCTAGGCCTCATGCTTACGCCCTACCCCGA
RMR reverse	primer	GCGATGCAATTCCTCATT
Actin RTPCR forward	primer	GGAAATCGTGCTGACATTA
Actin RTPCR reverse	primer	AGGAAGGAAGGCTGGAAGAG
POLQ RTPCR forward	primer	CTGACCTGCAAAAGCAATG
POLQ RTPCR reverse	primer	ACCCCTCTCAACTCCACT
non-targeting siRNA (siCTRL)	siRNA target sequence	UGGUUUAC AUGUCGACUAA
RAD52 (#1)	siRNA target sequence	GGAAAUUGAUCCAUUUA
RAD52 (#2)	siRNA target sequence	UAAUUUAUCUGGCCAAUGA
RAD52 (#3)	siRNA target sequence	CAGAAGGUGUGUACAUUG
RAD52 (#4)	siRNA target sequence	GAUGUUGGUUAUGGUGUUA
POLQ (#1)	siRNA target sequence	CAACAACUUUAUCGUAAA
POLQ (#2)	siRNA target sequence	GGACUACUUAUGAUUGGUA
POLQ (#3)	siRNA target sequence	CGACUAGAUAGAUUUU
POLQ (#4)	siRNA target sequence	AAACGGCCUUCUUAGAUU
BRCA2 (#1)	siRNA target sequence	GAAACGGACUUGCUAUUA
BRCA2 (#2)	siRNA target sequence	GUAAGAAAUGCAGAAUUC
BRCA2 (#3)	siRNA target sequence	GGUAUCAGAUGCUUAUUA
BRCA2 (#4)	siRNA target sequence	GAAGAUGCAGGUUUAUUA