

Table S8 List of DNA oligonucleotides used in this study

Oligo name	Sequence (5' to 3')	Template ¹	Purpose
Construction of the <i>Sd. ludwigii</i> isogenic diploid strain (YLFP18-1²)			
Sdl.URA3-C Sdl.URA3-D	TAACCCTTCTGGTTGTGAAGTC ATAAGTAATCAAATTTTGGGGGTC	<i>Sd. ludwigii</i> genomic DNA	cloning of <i>URA3</i>
S1-Sdl.URA3 S2-Sdl.URA3	GAACGAGAAACTCGATAAAACAATACAAATAAAGCAAATCCCAATTTCTATAATGCGTACGCTGCAGGTCGAC ATCAATACAAATTCATATGAAAATGTTCTGAATCTTTGATTCAAAAAGAACTTAATCGATGAATTCGAGCTCG	plasmids Ec-432/Ec-1579	deletion of <i>URA3</i>
Sdl.MAT-A5 Sdl.MAT-B5	CAAAAGCTGGAGCTCCACCGCGGTGGCGGCCGCTCTAGAACTAGTGGATCCATGTTGCAGCATCCACCGTTCCGTAATACGACTCACTATAGGGCGAATTGGGTACCGGGCCCCCCTCGAGAGTACAGACAAGTACCGGTCC	<i>Sd. ludwigii</i> genomic DNA	cloning of <i>MATα</i>
MATalpha-A4 MATalpha-B6	GGCGAATTGGAGGTCAATAAAG CGCTACTGAAAGGAACAGACG	<i>Sd. ludwigii</i> genomic DNA	exchange of <i>MAT</i> idiomorphs
Functional analyses of meiotic genes			
SPO11_LongFor SPO11_LongRev	CAAAAGCTGGAGCTCCACCGCGGTGGCGGCCGCTCTAGAACTAGTGGATCCTGTATATTGGGTGATGTTTGGGC CGTAATACGACTCACTATAGGGCGAATTGGGTACCGGGCCCCCCTCGAGAACTGTAATTACTTCCAACCTC	<i>Sd. ludwigii</i> genomic DNA	cloning of <i>SPO11</i>
SPO11-S1 SPO11-S2	GTAAAGTAAATAAATAAACAAATAAAAAATAATAAAAAAATTAATTATGCGTACGCTGCAGGTCGAC TTCATTGGCTTCAAATCTACTAATATGTCAGTTTAATTAACCCCTTCATTCATAATCGATGAATTCGAGCTCG	plasmid Ec-432	deletion of <i>SPO11</i>
RAD51-F1 RAD51-R2	CAGTGAATCTGGTGGCAATAC GTGTAAGAACCCTCACCATTATC	<i>Sd. ludwigii</i> genomic DNA	cloning of <i>RAD51</i>
S1-RAD51 S2-RAD51	GAAAAAGAAAGAAAAAGAAAAATAAAGAGATTTTCTAAGATATATCAAATATGCGTACGCTGCAGGTCGAC ATTGTCGCTGGGTATTATATTACAATTATTTTATACGATACAATATATTCTTATTAATCGATGAATTCGAGCTCG	plasmid Ec-432	deletion of <i>RAD51</i>
DMC1-F2 DMC1-R2	CAGTACCAGTTGGATACCACC TGATTTCAATCCCGTGGGCAG	<i>Sd. ludwigii</i> genomic DNA	cloning of <i>DMC1</i>
S1-DMC1 S2-DMC1	GAAATGTCAGAAACAACCACAACAGGTATAATTACAATTGATGAACACAAAATTCGTACGCTGCAGGTCGAC ATATATAATGGTAAATAAAAAAAGCTTCACGGATTGGAATAACATAATAAATCAATCGATGAATTCGAGCTCG	plasmid Ec-432	deletion of <i>DMC1</i>
SAE2_LongFor SAE2_LongRev	CAAAAGCTGGAGCTCCACCGCGGTGGCGGCCGCTCTAGAACTAGTGGATCCTGGATACGGATTGGGTTAATGG CGTAATACGACTCACTATAGGGCGAATTGGGTACCGGGCCCCCCTCGAGGCGTGATTTGGTACGGAAGG	<i>Sd. ludwigii</i> genomic DNA	cloning of <i>SAE2</i>

S1-SAE2 S2-SAE2	GATCTAAAGCTTTTGCAACTTTTAGGAGTTTTACACTAACCTAGAGAATACAAATGCGTACGCTGCAGGTCGAC ATTTATTTATTTATTTATTTATTTATTTATTTATTTATTTATTTATTTATTTATTTATTTAATCGATGAATTCGAGCTCG	plasmid Ec-432	deletion of <i>SAE2</i>
RAP1_LongFor RAP1_LongRev	CAAAAGCTGGAGCTCCACCGCGGTGGCGGCCGCTCTAGAACTAGTGGATCCAAGGTGTGTTAAGGGCGGAG CGTAATACGACTCACTATAGGGCGAATTGGGTACCGGGCCCCCCTCGAGTGGATTGGGAGGATCTAATGGTTC	<i>Sd. ludwigii</i> genomic DNA	cloning of <i>RAP1</i>
RAP1-S1 RAP1-S2	CATAACGCTTAAAAACAAAAAATATATATAAATACCAGAGAGCAAGGAGATGCGTACGCTGCAGGTCGAC ATATGAGAGAGAAAGGAAGAAAATAAAAGTGTTCAACTAAAAAAGTTGGAAGTAAATCGATGAATTCGAGCTCG	plasmid Ec-3108	tagging of <i>RAP1</i>

Validation of NCOs

For_1599931 Rev_1599931	TCATTATTTCCGCCAGGTGC GTGTTTCAGCGTTTGTCTTG	<i>Sd. ludwigii</i> genomic DNA (tetrad 280-283)	validation of NCO (in chrA)
For_113786 Rev_113786	TAATGACATGAGCGTGAGAAGG CGGCCAATAACAAAGCATGGG	<i>Sd. ludwigii</i> genomic DNA (tetrad 989-992)	validation of NCO (in chrD)

¹ Plasmid (see Supplementary Table 7) or genomic DNA of yeast strain (see Supplementary Table 1).

² See Supplementary Table 1.