Table S3 Construction of chromosomal gene disruptions

Allele	PCR Primer Name	PCR Primer Sequence	PCR Template [a]
pol2Δ::kanMX	Pol2-kanMXkoF	5′-ATGATGTTTGGCAAGAAAAAAAACAACGGAGGATCTTCCACTGCAAGATATTCAGCTGGCGAAGTTATTAGGTCTAGAGATCTG-3′	pUG6 (Guldener *et al.* 1996)
	Pol2-kanMXkoR	5′-TCATATGGTCAAATCAGCAATACAACTCAATAATATATCAAAACCGTAATACTTGGCTACTACGAAGTTATATTAAGGGTTCTCG-3′	
pol2Δ::natMX	Pol2::nat1-for2	5′-AGAGCATATGATGATGAAAGAGCACATTCTATCAAGATAACACTCTCAGGGGACAAGTATACATGGAGGCCCAGAATACCCT-3′	pFvL99 (Stulemeijer *et al.* 2011)
	Pol2::nat1-rev2	5′-TTTTTTTTTTTTTTTTTTTCATGGTAAAGAGGCCATTGAACCTCGCGTTATATACTGCTTACCAGTATAGCGACCAGCATTCAC-3′	
pol3Δ::natMX	Pol3MXF	5'-ATAGATATTGAGCACTTGCTATTAAGCATTAATCTTTATACATATACGCACAGCAACATGGAGGCCCAGAATACCCT-3'	pFvL99 (Stulemeijer *et al.* 2011)
	Pol3MXR	5′-GCAAAAAGTTGTTAGCCTTTCTTAATCCTAATATGATGTGCCACCCTATCGTTTTCAGTATAGCGACCAGCATTCAC-3′	
msh2Δ::HIS3 or *msh2Δ::TRP1*	Msh2U	5′-AAAAATCTCTTTATCTGCTGACCTAACATCAAAATCCTCAGATTAAAAGTAGATTGTACTGAGAGTGCAC-3′	pRS413 or pRS414 (Brachmann *et al.* 1998)
	Msh2D	5′-TTATAACAACAAGGCTTTTATATATTTCAGGTAATTATCGTTTTCCTTTTCTGTGCGGTATTTCACACCG-3′	
msh2Δ::MET15	Msh2::Met15F	5′-AAAAATCTCTTTATCTGCTGACCTAACATCAAAATCCTGCTGGCTTAACTATGCGGCATC-3′	pRS411 (Brachmann *et al.* 1998)
	Msh2::Met15R	5′-TTATAACAACAAGGCTTTTATATATTTCAGGTAATTATGTTTACAATTTCCTGATGCGGT-3′	
msh6Δ::HIS3 or *msh6Δ::TRP1*	Msh6U	5′-TTTAATTGGAGCAACTAGTTAATTTTGACAAAGCCAATTTGAACTCCAAAGAAGTTATTAGGTCTAGAGATCTG-3′	pRS413 or pRS414 (Brachmann *et al.* 1998)
	Msh6D	5′-ACTTTAAAAAAAATAAGTAAAAATCTTACATACATCGTAAATGAAAATACACGAAGTTATATTAAGGGTTCTCG-3′	
mlh1 Δ::HIS3 or *mlh1Δ::TRP1*	Mlh1U	5′-ATAGTGATAGTAAATGGAAGGTAAAAATAACATAGACCTATCAATAAGCAATGTCTCTCAGAATAAAAGCAGATTGTACTGAGAGTGCAC-3′	pRS413 or pRS414 (Brachmann *et al.* 1998)
	Mlh1D	5′-CTCAGGAAATAAACAAAAAACTTTGGTATTACAGCCAAAACGTTTTAAAGTTAACACCTCTCAAAAACTTTACTGTGCGGT ATTTCACACCG-3′	
pms1Δ::HIS3 or *pms1Δ::TRP1*	Pms1U	5′-GAACGCGAAAAGAAAAGACGCGTCTCTCTTAATAATCATTATGCGATAAAATGTTTCACCACATCGAAAAAGATTGTACTGAGAGTGCAC-3′	pRS413 or pRS414 (Brachmann *et al.* 1998)
	Pms1D	5′-TGTATATAATGTATTTGTTAATTATATAATGAATGAATATCAAAGCTAGATCATATTTCGTAATCCTTCGACTGTGCGGTATTTCACACCG-3′	

mlh3::MET15 or *mlh3Δ::TRP1*	Mlh3KO-upstream	5′-ACATAAACCAGCGAGGCTTTCAAGGAAGAATGAACGTGAACTCGTCAACTCAAAAAGAAAAGATTGTACTGAGAGTGCAC-3′	pRS411 or pRS414 (Brachmann *et al.* 1998)
	Mlh3KO-downstream	5′-TGCATATCCGCGCAATTTAAAATGCAGGCGACAAACCTTGTTCCAGGATTAAGGTTCTCTCTGTGCGGTATTTCACACCG-3′	
msh3::MET15 or *msh3Δ::LEU2*	Msh3KO-upstream	5′-GTACTTTTGAGAGCCAAAAGCAGTGCAAATAGATTTATTTTGTTGAATCTATTAACAATAAGATTGTACTGAGAGTGCAC-3′	pRS411 or pRS415 (Brachmann *et al.* 1998)
	Msh3KO-downstream	5′-TCAGTGGATATCCAATGATAGTAATTTCGCGAGTTTATCCGTTGCTGTTATATTATCTGTGCGGTATTTCACACCG-3′	
rev3Δ::TRP1	Rev3U	5′-ATTTGAGTCAATACAAAACTACAAGTTGTGGCGAAATAAAATGTTTGGAAAGATTGTACTGAGAGTGCAC-3′	pRS414 (Brachmann *et al.* 1998)
	Rev3D	5′-TTACCAATCATTTAGAGATATTAATGCTTCTTCCCTTTGAACAGATTGATCTGTGCGGTATTTCACACCG-3′	
rad30Δ::TRP1	Rad30U	5′-TAGCGCAGGCCTGCTCATTTTTGAACGGCTTTGATAAAACAAGACAAAGCAGATTGTACTGAGAGTGCAC-3′	pRS414 (Brachmann *et al.* 1998)
	Rad30D	5′-TCATTTTTTTCTTGTAAAAAATGATAAGATGTTTTTGGAAGATGTAACTTCTGTGCGGTATTTCACACCG-3′	

[a] pRS411 was used as template for gene replacement with *MET15*; pRS413 with *HIS3;* pRS414 with *TRP1*; pRS415 with *LEU2*.

Mutations were introduced into yeast using PCR products generated with the indicated primers and template DNAs. The PCR conditions for all primers used here were: 98°C, 1 min.; 30x (98°C, 10 sec.; 55°C, 30 sec.; 72°C, 90 sec.); 72°C, 60 sec.