

**Supplementary Table S3. Primers**

Location		Forward	Reverse
Chr. III (CARC1)	99327	AGCGGATCAATCCACAAAGC	TGCTGTAGTCACCTCAGCAAG
	99690	AAAGGTGCCCAAGAAAAGG	AGCACTTTACTCGCTTGTGG
	100235	ATGCCAAGGCGGAAAGAATG	TGGGGGCTTCTCGATTTTTG
	100925	ATGAGAAAGAGGGGTTCTTCG	GGCGTCAATGCTTTAGTTCTCC
	101809	ACTTTGGTTTTCCGGTGTGC	CCAGCGATGAGATGCGAAAAG
	102140	ATGGTTCGGTTGGTGCTTAG	ACGCGGAATTGAAACCACAG
	101956	TCGCTTTTCGCATCTCATCG	AGCGGGCGGGTTATAAATAAC
Chr. III (MAT CAR)	288405	TCGTCTCCTAGAACTCCACTTAC	GGCCAATTCTGGCAAACCTTATT
	289283	CCAGTGCTGTAAGTGTCTCTC	GCCTTGACATATCCGGGTAATA
	289846	TGTAGGTGCAGAAAGAGAAAGT	CCAAGGCATAATGTGTGAAGTG
	290608	GTTGTATTTCTTCCGTCTCACATT	CAAGACTCACCTTCCAGTACATAG
	291904	AGAGTTGGTAGAGTTCCTTGTG	ACTACCGGATTAGAGGTTTGTATT
	292777	CCCGTCCAAGTTATGAGCTTAAT	CAGGAGTACCTGCGCTTATTC
Chr. III (centromere)	112094	CCGAAGGCTGGTATGTGATT	CCAGCTTCCAATTCGTTGTTT
	114443	GATCAGCGCCAAACAATATGG	AACTTCCACCAGTAAACGTTTC
	116303	TGAGTCTTCGTCAGTGCATATT	CACTTTCATGTTTGGACGTTTCT
	117285	ACCAAGGAGAGAAGCAAGTTAC	ATGTCTAGCAACGCCATTCA
Chr. IV (centromere)	445519	GGTTGGGATCTAGGGATTAC	TGATTGATTACCTAGCCTT
	449630	ACACGAGCCAGAAATAGTAAC	TGATTATAAGCATGTGACCTTT
	451309	GGAATACCGAGACCGTTAG	ACAGCCCCCATCTTG
	452404	CTTGGGTCTGTTGGGG	ATACAAGCCAAGGACCG

**Supplementary Table S2. Primers used for site directed mutagenesis**

Mutation	Forward primer	Reverse primer
<u>L306E</u>	gaacatactgGAattattgcaaagtg	tttaattctttgtagtgaaaaatcataggc
<u>L307E</u>	gaacatactgtaGAattgcaaagtg	
<u>W490A</u>	aacgatcctaGCgcttttcagccattcg	actgtgcactcccatatgggggtg
<u>L491E</u>	aacgatcctatggGAAttcagccattcg	