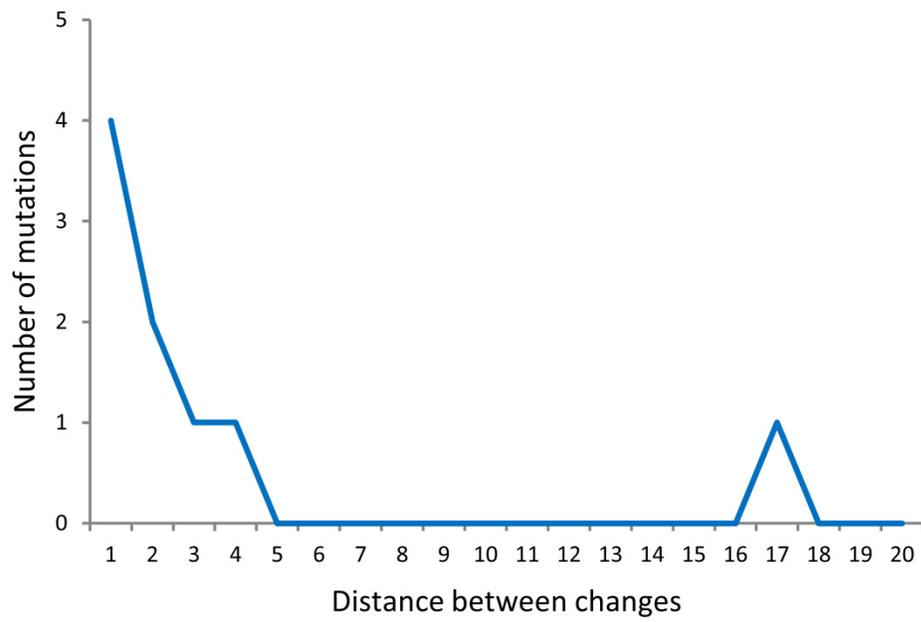


**Figure S1** Point mutation rate estimates for each MA sub-line.



**FigureS2** Distance between base changes for multinucleotide mutations affecting two sites.

Tables S1 and S2 are available for download at <http://www.genetics.org/lookup/suppl/doi:10.1534/genetics.113.151670/-/DC1>.

**Table S1 Point mutations occurring during mutation accumulation.** Positions of mutations validated by Sanger sequencing are marked with asterisks.

**Table S2 Small indels occurring during mutation accumulation.** Positions of mutations validated by Sanger sequencing are marked with asterisks.

**Table S3** Multinucleotide mutations occurring during mutation accumulation, all confirmed by Sanger sequencing.

Chromosome arm	Coordinates	Mutation	Mutant line
chr2L	20628928, 20628930	G->A;T->G	33-27
chr3R	2065681, 2065685	G->A;C->A	33-27
chr2L	7161924, 7161927	G->A;A->T	33-45
chr2R	11166158, 11166159	G->A;C->A	33-45
chr3R	18338533, 18338550	T->C;G->T	33-45
chr2L	19248550, 9248551	A->T;G->T	33-5
chr3R	19467135, 19467136	A->T;T->A	33-55
chrX	5940420, 5940434, 5940463	G->A;G->A;T->C	33-55
chr3L	13034276, 13034277	T->A;A->T	39-51
chrX	15730179, 15730181	T->A;T->A	39-58

**Table S4** Complex mutations occurring during mutation accumulation, all confirmed by Sanger sequencing.

Coordinates	Mutation	Mutant line
chr2R:3026177	GGCTATCTTTCTTTCGGAACATTACC→GTATTATTCCT	33-27
chrX:19646896	GCAGG→GAAAAGCA	33-27
chr2R:17877493	GTGCC→GGGT	33-55
chr2L:9526339	CTATATATGTAG→CATCC	39-51
chr3R:27194562	CC→CAG	39-51
chrX:3816859	ATTTT→ATGT	39-51
chr2L:7806673	AGATAGGC→AAT	39-58

**Table S5 Mutation rate estimates for different minimum read-depth cutoffs.**

Depth cutoff	No. of mutations in Line 33	Line 33 rate	95% CI	No. of mutations in Line 39	Line 39 rate	95% CI
5	514	$7.71 \times 10^{-9}$	$7.06 \times 10^{-9}$ - $8.40 \times 10^{-9}$	218	$3.27 \times 10^{-9}$	$2.85 \times 10^{-9}$ - $3.73 \times 10^{-9}$
6	511	$7.77 \times 10^{-9}$	$7.11 \times 10^{-9}$ - $8.47 \times 10^{-9}$	216	$3.28 \times 10^{-9}$	$2.86 \times 10^{-9}$ - $3.75 \times 10^{-9}$
7	503	$7.80 \times 10^{-9}$	$7.13 \times 10^{-9}$ - $8.51 \times 10^{-9}$	212	$3.28 \times 10^{-9}$	$2.86 \times 10^{-9}$ - $3.76 \times 10^{-9}$
8	487	$7.75 \times 10^{-9}$	$7.08 \times 10^{-9}$ - $8.47 \times 10^{-9}$	207	$3.29 \times 10^{-9}$	$2.86 \times 10^{-9}$ - $3.77 \times 10^{-9}$
9	474	$7.81 \times 10^{-9}$	$7.12 \times 10^{-9}$ - $8.54 \times 10^{-9}$	200	$3.29 \times 10^{-9}$	$2.85 \times 10^{-9}$ - $3.77 \times 10^{-9}$
10	454	$7.83 \times 10^{-9}$	$7.12 \times 10^{-9}$ - $8.58 \times 10^{-9}$	193	$3.31 \times 10^{-9}$	$2.86 \times 10^{-9}$ - $3.81 \times 10^{-9}$
11	420	$7.67 \times 10^{-9}$	$6.95 \times 10^{-9}$ - $8.43 \times 10^{-9}$	182	$3.29 \times 10^{-9}$	$2.83 \times 10^{-9}$ - $3.80 \times 10^{-9}$
12	394	$7.72 \times 10^{-9}$	$6.97 \times 10^{-9}$ - $8.52 \times 10^{-9}$	174	$3.35 \times 10^{-9}$	$2.87 \times 10^{-9}$ - $3.89 \times 10^{-9}$
13	365	$7.79 \times 10^{-9}$	$7.01 \times 10^{-9}$ - $8.63 \times 10^{-9}$	160	$3.33 \times 10^{-9}$	$2.83 \times 10^{-9}$ - $3.89 \times 10^{-9}$
14	323	$7.64 \times 10^{-9}$	$6.82 \times 10^{-9}$ - $8.51 \times 10^{-9}$	144	$3.28 \times 10^{-9}$	$2.77 \times 10^{-9}$ - $3.86 \times 10^{-9}$
15	285	$7.59 \times 10^{-9}$	$6.74 \times 10^{-9}$ - $8.53 \times 10^{-9}$	132	$3.34 \times 10^{-9}$	$2.79 \times 10^{-9}$ - $3.96 \times 10^{-9}$
16	249	$7.62 \times 10^{-9}$	$6.71 \times 10^{-9}$ - $8.63 \times 10^{-9}$	115	$3.28 \times 10^{-9}$	$2.71 \times 10^{-9}$ - $3.94 \times 10^{-9}$
17	214	$7.68 \times 10^{-9}$	$6.69 \times 10^{-9}$ - $8.79 \times 10^{-9}$	99	$3.23 \times 10^{-9}$	$2.63 \times 10^{-9}$ - $3.94 \times 10^{-9}$
18	179	$7.70 \times 10^{-9}$	$6.61 \times 10^{-9}$ - $8.92 \times 10^{-9}$	91	$3.46 \times 10^{-9}$	$2.79 \times 10^{-9}$ - $4.25 \times 10^{-9}$
19	142	$7.49 \times 10^{-9}$	$6.31 \times 10^{-9}$ - $8.83 \times 10^{-9}$	73	$3.29 \times 10^{-9}$	$2.58 \times 10^{-9}$ - $4.14 \times 10^{-9}$
20	115	$7.61 \times 10^{-9}$	$6.29 \times 10^{-9}$ - $9.14 \times 10^{-9}$	60	$3.26 \times 10^{-9}$	$2.49 \times 10^{-9}$ - $4.20 \times 10^{-9}$