**Supplementary File 1:** Direct repeat recombinant frequencies

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Genotype and strain number | Number of colonies analysed | Ade+ His-  (deletion)  recombinant  frequency (x 10-4)a | | Ade+ His+  (gene conversion)  recombinant  frequency (x 10-4)a | |
| Mean | *P* valueb | Mean | *P* valueb |
| wild-type  MCW8020 | 23 | 419.7  (+/- 127.9) | - | 182.8  (+/- 78.6) | - |
| *fml1*∆  MCW8300 | 20 | 1087  (+/- 288.8) | <0.0001c | 64.8  (+/- 26.5) | <0.0001c |
| *fml1*D196N  MCW9268 | 18 | 1286  (+/- 339.4) | <0.0001c | 95.1  (+/- 50.0) | <0.001c |
| *fml1*K99R  MCW9281 | 16 | 1539  (+/- 605.9) | <0.0001c | 76.3  (+/- 36.4) | <0.0001c |
| *fml1*∆C  MCW9266 | 19 | 763.3  (+/- 256.3) | <0.0001c | 64.2  (+/- 41.9) | <0.0001c |
| *rad51*∆  MCW8296 | 22 | 198.0  (+/- 72.16) | <0.0001c | 8.03  (+/- 6.81) | <0.0001c |
| *fml1*∆ *rad51*∆  MCW9496 | 22 | 1659  (+/- 785.0) | <0.0001c  <0.0001d | 11.82  (+/- 10.67) | <0.0001c  <0.3037d |
| *mhf2*D87A  MCW9220 | 17 | 588.7  (+/- 194.4) | <0.01c | 122.6  (+/- 67.5) | <0.05c |
| *fml1*AAA  MCW9283 | 16 | 677.6  (+/- 310.8) | <0.001c | 154.6  (+/- 45.7) | 0.2050c |
| *mhf2*D87A*fml1*AAA  MCW9269 | 18 | 893.5  (+/- 193.7) | <0.0001c | 99.4  (+/- 40.9) | <0.001c |

a The values in parentheses are the standard deviations about the mean.

b *P* values are derived from the Mann-Whitney U test comparing the mean values as indicated.

c Compared to the equivalent mean recombinant frequency in MCW8020.

d Compared to the equivalent mean recombinant frequency in MCW8296.