

Table S2: Mutant allele frequencies in yeast data from Lang et al, 2013 and the application of ELRT and FIT

Line	Gene	Amino acid change	Time in generations ^a								ELRT ^b					FIT			
			415	505	585	665	745	825	910	1000	\tilde{N}	\hat{N}	$\hat{s}, \%$	P_{abs}	$P - val$ bound	Cond $P - val$	t_{FI}	df	$P - val$
RMB2-F01	<i>STE11</i>	D579Y	n/a	n/a	n/a	n/a	3	9	24	32	181	1.2×10^5	1.7	0.977	0.983	0.261	3.28	1	0.094
			n/a	n/a	n/a	n/a	67	69	60	68									
RMS1-D12	<i>IRA1</i>	Y822*	8	34	84	73	98	97	97	n/a	3338	6.7×10^4	1.6	0.048	0.049	0.001	2.42	2	0.068
			115	64	102	93	105	99	98	n/a									
BYS2-D06	<i>IRA2</i>	A2698T	n/a	2	1	51	64	79	119	n/a	539	850	2.0	0.440	0.557	0.209	2.03	2	0.090
			n/a	154	147	150	152	93	125	n/a									

^aFor each mutation, top row shows the number of reads with the mutant allele and the bottom row shows the total coverage at that site. Data points for which the ELRT and FIT P-values are reported are shown in bold.

^bFor ELRT, we show the parameter values that maximize likelihood functions (9) and (10) under the Gaussian approximation, the probability P_{abs} of an absorption event during the sampling period in the neutral Wright-Fisher trials with \tilde{N} , an upper bound on the ELRT P-value given by the fraction of trials that have a higher than observed LRS among all trials, and the conditional P-value given by the fraction of trials that have a higher than observed LRS among trials without an absorption event.

Tables S3 and S4 are available for download as Excel files at <http://www.genetics.org/lookup/suppl/doi:10.1534/genetics.113.158220/-/DC1>.

Table S3 Results of FIT applied to data from yeast populations evolved at different population sizes .

Table S4 Raw flow cytometry counts for yeast populations evolved at different population sizes .