

Table S2. Top genes enriched in the “In Gfp-” population.

Genes in orange are expected to be enriched in this population; **YDL041W*** overlaps completely with *SIR2/YDL042C*; N/A = slow growth or lethal phenotype and not tested for *pFUS1*-GFP expression.

Systematic Name	Common Name	Log2 Fold Change	padj	Individually Tested Phenotype	Newly Made Mutant Phenotype
YIL011W	TIR3	9.885	0.0026	Wild-type	
YDR227W	SIR4	9.864	0.0026		Gfp ⁻ ; no induction
YIL030C	SSM4/DOA10	9.817	0.0026	Lower basal	Lower basal
YPR126C	YPR126C	9.761	0.0026	Gfp ⁻ ; no induction	Wild-type
YDL073W	YDL073W	9.729	0.0026	Wild-type	
YIL032C	YIL032C	9.720	0.0026	Wild-type	
YBR085W	AAC3	9.706	0.0026	Lower basal; no induction	Wild-type
YNL264C	PDR17	9.703	0.0026	Gfp ⁻ ; no induction	Wild-type
YIL042C	PKP1	9.683	0.0026	Wild-type	
YIL014W	MNT3	9.682	0.0120	Wild-type	
YLR442C	SIR3	9.670	0.0047		Gfp ⁻ ; no induction
YDR103W	STE5	9.639	0.0055		Gfp ⁻ ; no induction
YDR462W	MRPL28	9.629	0.0055	Wild-type	
YDR443C	SSN2	9.626	0.0026	Wild-type	
YIL066C	RNR3	9.606	0.0026	Wild-type	
YOR359W	VTS1	9.600	0.0026	Wild-type	
YIL009W	FAA3	9.594	0.0026	Wild-type	
YDL159W	STE7	9.585	0.0049		Gfp ⁻ ; no induction
YIL044C	AGE2	9.581	0.0026		
YHR177W	YHR177W	9.578	0.0026	Lower basal; no induction	Wild-type
YIL154C	IMP2	9.557	0.0028	Gfp ⁻ ; no induction	Wild-type
YIL012W	YIL012W	9.552	0.0031	Gfp ⁻ ; no induction	Wild-type
YDL074C	BRE1	9.548	0.0026		Wild-type
YIL093C	RSM25	9.546	0.0026	Gfp ⁻ ; no induction	
YHR178W	STB5	9.545	0.0065	Wild-type	
YDL041W*	YDL041W*	9.542	0.0026		
YOR212W	STE4	9.536	0.0049		Gfp ⁻ ; no induction
YIR013C	GAT4	9.531	0.0026	Wild-type	
YIL079C	AIR1	9.523	0.0026	Wild-type	
YOR369C	RPS12	9.513	0.0026	Lower basal; no induction	N/A
YLL026W	HSP104	9.512	0.0026	Wild-type	
YIL133C	RPL16A	9.506	0.0055	Wild-type	
YMR088C	VBA1	9.505	0.0026		
YDL042C	SIR2	9.496	0.0045		Gfp ⁻ ; no induction
YNR075W	COS10	9.490	0.0070	Wild-type	

YIL025C	YIL025C	9.370	0.0065	Wild-type	
YBR032W	YBR032W	9.283	0.0028	Lower basal	Wild-type
