

SUPPLEMENTAL TABLES

Systematic analysis of nuclear gene function in respiratory growth and expression of the mitochondrial genome in *S. cerevisiae*

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Table S1. Combined results of four genome-wide screens to obtain high confidence *pet* genes. This table contains all ORFs and dubious ORFs from all non-mitochondrial chromosomes. The list has been taken from the Saccharomyces Genome Database, SGD, (www.yeastgenome.org; [36]) on September 25, 2019. For each ORF, the systematic gene name, the standard gene name and a brief description of the protein function according to SGD are given. Furthermore, this list contains the presence of the protein in a high confidence mitochondrial proteome [8], the results of the four *pet* screens ([18, 23, 25] and this work), and the *pet* score. The value "nd" indicates that the deletion mutant has not been tested (in most cases because it was missing from the deletion collection that was used for the screen). Some ORFs have been renamed or merged. In this case, the ORF name from the original dataset has been updated to the new nomenclature.

Table S1 is supplied as a separate Excel file.

References

8. Morgenstern M, Stiller SB, Lubbert P, Peikert CD, Dannenmaier S, Drepper F, Weill U, Hoss P, Feuerstein R, Gebert M, Bohnert M, van der Laan M, Schuldiner M, Schutze C, Oeljeklaus S, Pfanner N, Wiedemann N, Warscheid B (2017). Definition of a high-confidence mitochondrial proteome at quantitative scale. **Cell Rep** 19(13): 2836-2852. doi: 10.1016/j.celrep.2017.06.014.
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Table S2. High confidence *pet* genes in yeast. This table contains the systematic gene name according to SGD, the standard gene name according to SGD, the presence of the encoded protein in a high confidence mitochondrial proteome [8], the *pet* score, and for dubious ORFs a list of overlapping genomic features according to SGD, including their respective *pet* score (overlapping dubious ORFs have not been annotated). This table is an excerpt of data compiled in Table S1. Genes were manually grouped into functional categories.

Reference

8. Morgenstern M, Stiller SB, Lubbert P, Peikert CD, Dannenmaier S, Drepper F, Weill U, Hoss P, Feuerstein R, Gebert M, Bohnert M, van der Laan M, Schuldiner M, Schutze C, Oeljeklaus S, Pfanner N, Wiedemann N, Warscheid B (2017). Definition of a high-confidence mitochondrial proteome at quantitative scale. **Cell Rep** 19(13): 2836-2852. doi: 10.1016/j.celrep.2017.06.014.

Stenger et al. - Table S2

ORF	standard name	Morgenstern et al. (2017)	<i>pet</i> score	overlapping ORFs
Mitochondrial translation and RNA maturation				
<i>YBL038W</i>	<i>MRPL16</i>	mitochondrial	0.75	
<i>YBL080C</i>	<i>PET112</i>	mitochondrial	0.75	
<i>YBL090W</i>	<i>MRP21</i>	mitochondrial	1.00	
<i>YBR122C</i>	<i>MRPL36</i>	mitochondrial	1.00	
<i>YBR251W</i>	<i>MRPS5</i>	mitochondrial	0.75	
<i>YBR268W</i>	<i>MRPL37</i>	mitochondrial	0.75	
<i>YBR282W</i>	<i>MRPL27</i>	mitochondrial	1.00	
<i>YCR003W</i>	<i>MRPL32</i>	mitochondrial	1.00	
<i>YCR024C</i>	<i>SLM5</i>	mitochondrial	1.00	
<i>YCR046C</i>	<i>IMG1</i>	mitochondrial	1.00	
<i>YCR071C</i>	<i>IMG2</i>	mitochondrial	1.00	
<i>YDL045W-A</i>	<i>MRP10</i>	mitochondrial	0.75	
<i>YDL069C</i>	<i>CBS1</i>	mitochondrial	0.75	
<i>YDL202W</i>	<i>MRPL11</i>	mitochondrial	0.75	
<i>YDR115W</i>	<i>MRX14</i>	mitochondrial	0.75	
<i>YDR175C</i>	<i>RSM24</i>	mitochondrial	1.00	
<i>YDR197W</i>	<i>CBS2</i>	mitochondrial	0.75	
<i>YDR237W</i>	<i>MRPL7</i>	mitochondrial	0.75	
<i>YDR268W</i>	<i>MSW1</i>	mitochondrial	0.75	
<i>YDR296W</i>	<i>MHR1</i>	mitochondrial	0.75	
<i>YDR337W</i>	<i>MRPS28</i>	mitochondrial	0.75	
<i>YDR347W</i>	<i>MRP1</i>	mitochondrial	0.75	
<i>YDR350C</i>	<i>ATP22</i>	mitochondrial	0.75	
<i>YDR405W</i>	<i>MRP20</i>	mitochondrial	0.75	
<i>YEL050C</i>	<i>RML2</i>	mitochondrial	0.75	
<i>YER050C</i>	<i>RSM18</i>	mitochondrial	1.00	
<i>YER087W</i>	<i>AIM10</i>	mitochondrial	1.00	
<i>YER153C</i>	<i>PET122</i>	mitochondrial	0.75	
<i>YGL107C</i>	<i>RMD9</i>	mitochondrial	0.75	
<i>YGL129C</i>	<i>RSM23</i>	mitochondrial	1.00	
<i>YGL143C</i>	<i>MRF1</i>	mitochondrial	1.00	
<i>YGR076C</i>	<i>MRPL25</i>	mitochondrial	0.75	
<i>YGR150C</i>	<i>CCM1</i>	mitochondrial	1.00	
<i>YGR171C</i>	<i>MSM1</i>	mitochondrial	0.75	
<i>YGR215W</i>	<i>RSM27</i>	mitochondrial	1.00	
<i>YGR220C</i>	<i>MRPL9</i>	mitochondrial	1.00	
<i>YGR222W</i>	<i>PET54</i>	mitochondrial	1.00	
<i>YHL004W</i>	<i>MRP4</i>	mitochondrial	1.00	
<i>YHL038C</i>	<i>CBP2</i>	mitochondrial	1.00	
<i>YHR011W</i>	<i>DIA4</i>	mitochondrial	1.00	
<i>YHR038W</i>	<i>RRF1</i>	mitochondrial	0.75	
<i>YHR091C</i>	<i>MSR1</i>	mitochondrial	1.00	
<i>YHR147C</i>	<i>MRPL6</i>	mitochondrial	1.00	
<i>YHR168W</i>	<i>MTG2</i>	mitochondrial	0.75	
<i>YIR021W</i>	<i>MRS1</i>	mitochondrial	0.75	
<i>YJL063C</i>	<i>MRPL8</i>	mitochondrial	0.75	
<i>YJL096W</i>	<i>MRPL49</i>	mitochondrial	1.00	

ORF	standard name	Morgenstern et al. (2017)	pet score	overlapping ORFs
YJL102W	MEF2	mitochondrial	0.75	
YJL209W	CBP1	mitochondrial	0.75	
YJR113C	RSM7	mitochondrial	1.00	
YKL003C	MRP17	mitochondrial	1.00	
YKL138C	MRPL31	mitochondrial	0.75	
YKL155C	RSM22	mitochondrial	1.00	
YKL170W	MRPL38	mitochondrial	1.00	
YKL194C	MST1	mitochondrial	1.00	
YKR006C	MRPL13	mitochondrial	1.00	
YKR085C	MRPL20	mitochondrial	0.75	
YLR067C	PET309	mitochondrial	1.00	
YLR069C	MEF1	mitochondrial	0.75	
YLR091W	GEP5	mitochondrial	0.75	
YLR139C	SLS1	mitochondrial	1.00	
YLR203C	MSS51	mitochondrial	1.00	
YLR312W-A	MRPL15	mitochondrial	1.00	
YLR382C	NAM2	mitochondrial	0.75	
YLR439W	MRPL4	mitochondrial	0.75	
YMR064W	AEP1	mitochondrial	1.00	
YMR097C	MTG1	mitochondrial	0.75	
YMR098C	ATP25	mitochondrial	1.00	
YMR158W	MRPS8	mitochondrial	0.75	
YMR193W	MRPL24	mitochondrial	0.75	
YMR257C	PET111	mitochondrial	1.00	
YMR282C	AEP2	mitochondrial	0.75	
YMR286W	MRPL33	mitochondrial	1.00	
YMR293C	HER2	mitochondrial	1.00	
YNL005C	MRP7	mitochondrial	1.00	
YNL073W	MSK1	mitochondrial	1.00	
YNL081C	SWS2	mitochondrial	1.00	
YNL177C	MRPL22	mitochondrial	1.00	
YNL185C	MRPL19	mitochondrial	1.00	
YNL252C	MRPL17	mitochondrial	0.75	
YNL284C	MRPL10	mitochondrial	0.75	
YNR036C	MRPS12	mitochondrial	0.75	
YNR037C	RSM19	mitochondrial	1.00	
YNR045W	PET494	mitochondrial	0.75	
YOL023W	IFM1	mitochondrial	0.75	
YOL033W	MSE1	mitochondrial	1.00	
YOR150W	MRPL23	mitochondrial	1.00	
YOR158W	PET123	mitochondrial	1.00	
YOR187W	TUF1	mitochondrial	1.00	
YOR205C	GEP3	mitochondrial	0.75	
YOR350C	MNE1	mitochondrial	0.75	
YPL005W	AEP3	mitochondrial	0.75	
YPL013C	MRPS16	mitochondrial	1.00	
YPL097W	MSY1	mitochondrial	1.00	
YPL104W	MSD1	mitochondrial	0.75	
YPL118W	MRP51	mitochondrial	0.75	

ORF	standard name	Morgenstern et al. (2017)	pet score	overlapping ORFs
<i>YPL173W</i>	<i>MRPL40</i>	mitochondrial	1.00	
<i>YPR047W</i>	<i>MSF1</i>	mitochondrial	0.75	
<i>YPR100W</i>	<i>MRPL51</i>	mitochondrial	0.75	
<i>YPR116W</i>	<i>RRG8</i>	mitochondrial	1.00	
Mitochondrial transcription				
<i>YDL044C</i>	<i>MTF2</i>	mitochondrial	0.75	
<i>YDR194C</i>	<i>MSS116</i>	mitochondrial	0.75	
<i>YFL036W</i>	<i>RPO41</i>	mitochondrial	0.75	
<i>YMR228W</i>	<i>MTF1</i>	mitochondrial	1.00	
Respiratory chain components and assembly factors				
<i>YAL039C</i>	<i>CYC3</i>	mitochondrial	0.75	
<i>YBL045C</i>	<i>COR1</i>	mitochondrial	1.00	
<i>YBL099W</i>	<i>ATP1</i>	mitochondrial	1.00	
<i>YBR037C</i>	<i>SCO1</i>	mitochondrial	0.75	
<i>YBR039W</i>	<i>ATP3</i>	mitochondrial	1.00	
<i>YDL067C</i>	<i>COX9</i>	mitochondrial	1.00	
<i>YDL107W</i>	<i>MSS2</i>	mitochondrial	1.00	
<i>YDR079W</i>	<i>PET100</i>	mitochondrial	1.00	
<i>YDR231C</i>	<i>COX20</i>	mitochondrial	0.75	
<i>YDR298C</i>	<i>ATP5</i>	mitochondrial	1.00	
<i>YDR375C</i>	<i>BCS1</i>	mitochondrial	0.75	
<i>YDR377W</i>	<i>ATP17</i>	mitochondrial	1.00	
<i>YDR529C</i>	<i>QCR7</i>	mitochondrial	0.75	
<i>YEL024W</i>	<i>RIP1</i>	mitochondrial	1.00	
<i>YER058W</i>	<i>PET117</i>	mitochondrial	0.75	
<i>YGR062C</i>	<i>COX18</i>	mitochondrial	1.00	
<i>YGR112W</i>	<i>SHY1</i>	mitochondrial	1.00	
<i>YGR174C</i>	<i>CBP4</i>	mitochondrial	0.75	
<i>YHR051W</i>	<i>COX6</i>	mitochondrial	1.00	
<i>YJL166W</i>	<i>QCR8</i>	mitochondrial	0.75	
<i>YJL180C</i>	<i>ATP12</i>	mitochondrial	1.00	
<i>YJR121W</i>	<i>ATP2</i>	mitochondrial	0.75	
<i>YKL016C</i>	<i>ATP7</i>	mitochondrial	1.00	
<i>YKL087C</i>	<i>CYT2</i>	mitochondrial	0.75	
<i>YKL148C</i>	<i>SDH1</i>	mitochondrial	0.75	
<i>YLL018C-A</i>	<i>COX19</i>	mitochondrial	1.00	
<i>YLL041C</i>	<i>SDH2</i>	mitochondrial	0.75	
<i>YLR038C</i>	<i>COX12</i>	mitochondrial	1.00	
<i>YLR393W</i>	<i>ATP10</i>	mitochondrial	0.75	
<i>YMR035W</i>	<i>IMP2</i>	mitochondrial	0.75	
<i>YMR150C</i>	<i>IMP1</i>	mitochondrial	1.00	
<i>YMR256C</i>	<i>COX7</i>	mitochondrial	1.00	
<i>YNL052W</i>	<i>COX5A</i>	mitochondrial	1.00	
<i>YNL315C</i>	<i>ATP11</i>	mitochondrial	1.00	
<i>YOL071W</i>	<i>SDH5</i>	mitochondrial	0.75	
<i>YOR065W</i>	<i>CYT1</i>	mitochondrial	1.00	
<i>YPL078C</i>	<i>ATP4</i>	mitochondrial	1.00	
<i>YPL132W</i>	<i>COX11</i>	mitochondrial	0.75	
<i>YPL172C</i>	<i>COX10</i>	mitochondrial	1.00	

ORF	standard name	Morgenstern et al. (2017)	pet score	overlapping ORFs
<i>YPL215W</i>	<i>CBP3</i>	mitochondrial	0.75	
<i>YPL271W</i>	<i>ATP15</i>	mitochondrial	1.00	
<i>YPR191W</i>	<i>QCR2</i>	mitochondrial	0.75	
mtDNA metabolism				
<i>YCR028C-A</i>	<i>RIM1</i>	mitochondrial	1.00	
<i>YHR120W</i>	<i>MSH1</i>	mitochondrial	1.00	
<i>YJR144W</i>	<i>MGM101</i>	mitochondrial	1.00	
<i>YML061C</i>	<i>PIF1</i>	mitochondrial	0.75	
<i>YMR072W</i>	<i>ABF2</i>	mitochondrial	1.00	
<i>YOL095C</i>	<i>HMI1</i>	mitochondrial	0.75	
<i>YOR330C</i>	<i>MIP1</i>	mitochondrial	1.00	
Other mitochondrial proteins				
<i>YAL044C</i>	<i>GCV3</i>	mitochondrial	1.00	
<i>YBR003W</i>	<i>COQ1</i>	mitochondrial	1.00	
<i>YBR026C</i>	<i>ETR1</i>	mitochondrial	1.00	
<i>YBR179C</i>	<i>FZO1</i>	mitochondrial	0.75	
<i>YDL198C</i>	<i>GGC1</i>	mitochondrial	0.75	
<i>YDR148C</i>	<i>KGD2</i>	mitochondrial	1.00	
<i>YDR204W</i>	<i>COQ4</i>	mitochondrial	0.75	
<i>YEL059C-A</i>	<i>SOM1</i>	mitochondrial	0.67	
<i>YER014W</i>	<i>HEM14</i>	mitochondrial	0.67	
<i>YER017C</i>	<i>AFG3</i>	mitochondrial	0.75	
<i>YER061C</i>	<i>CEM1</i>	mitochondrial	1.00	
<i>YER145C</i>	<i>FTR1</i>	mitochondrial	0.75	
<i>YER154W</i>	<i>OXA1</i>	mitochondrial	1.00	
<i>YFL016C</i>	<i>MDJ1</i>	mitochondrial	1.00	
<i>YFL018C</i>	<i>LPD1</i>	mitochondrial	0.75	
<i>YGR255C</i>	<i>COQ6</i>	mitochondrial	0.75	
<i>YHR067W</i>	<i>HTD2</i>	mitochondrial	1.00	
<i>YJL046W</i>	<i>AIM22</i>	mitochondrial	1.00	
<i>YJR122W</i>	<i>IBA57</i>	mitochondrial	1.00	
<i>YKLO40C</i>	<i>NFU1</i>	mitochondrial	0.75	
<i>YKLO55C</i>	<i>OAR1</i>	mitochondrial	0.75	
<i>YKL134C</i>	<i>OCT1</i>	mitochondrial	1.00	
<i>YLL027W</i>	<i>ISA1</i>	mitochondrial	1.00	
<i>YLR201C</i>	<i>COQ9</i>	mitochondrial	0.75	
<i>YLR239C</i>	<i>LIP2</i>	mitochondrial	0.75	
<i>YLR304C</i>	<i>ACO1</i>	mitochondrial	0.75	
<i>YLR369W</i>	<i>SSQ1</i>	mitochondrial	0.75	
<i>YML110C</i>	<i>COQ5</i>	mitochondrial	0.75	
<i>YMR089C</i>	<i>YTA12</i>	mitochondrial	1.00	
<i>YMR267W</i>	<i>PPA2</i>	mitochondrial	1.00	
<i>YMR287C</i>	<i>DSS1</i>	mitochondrial	0.75	
<i>YNR041C</i>	<i>COQ2</i>	mitochondrial	1.00	
<i>YOL008W</i>	<i>COQ10</i>	mitochondrial	0.75	
<i>YOL096C</i>	<i>COQ3</i>	mitochondrial	0.75	
<i>YOR125C</i>	<i>CAT5</i>	mitochondrial	0.75	
<i>YOR211C</i>	<i>MGM1</i>	mitochondrial	1.00	
<i>YOR221C</i>	<i>MCT1</i>	mitochondrial	0.75	

ORF	standard name	Morgenstern et al. (2017)	pet score	overlapping ORFs
YOR241W	MET7	mitochondrial	1.00	
YPL029W	SUV3	mitochondrial	0.75	
YPL059W	GRX5	mitochondrial	0.75	
YPL148C	PPT2	mitochondrial	0.75	
YPL262W	FUM1	mitochondrial	0.75	
YPR067W	ISA2	mitochondrial	1.00	
Vacuole-related function				
YCL005W-A	VMA9		1.00	
YDL185W	VMA1		1.00	
YEL027W	VMA3		0.75	
YEL051W	VMA8		0.75	
YGR105W	VMA21		1.00	
YHR026W	VMA16		0.75	
YHR039C-A	VMA10		0.75	
YHR060W	VMA22		0.75	
YKL002W	DID4		0.75	
YKL080W	VMA5		1.00	
YLR396C	VPS33		0.75	
YLR447C	VMA6		1.00	
YOR332W	VMA4		0.75	
YPL045W	VPS16		0.75	
YPL234C	VMA11		0.75	
Other proteins				
YAL012W	CYS3		0.75	
YAL016W	TPD3		0.75	
YBL021C	HAP3		0.75	
YDR477W	SNF1		0.75	
YER014C-A	BUD25		0.75	HEM14 (pet score: 0.67) and FAA2 (pet score: 0.00)
YGL070C	RPB9		0.75	
YGL071W	AFT1		1.00	
YGL115W	SNF4		0.75	
YGL135W	RPL1B		0.75	
YGL237C	HAP2		0.75	
YGL240W	DOC1		0.75	
YGR180C	RNR4		1.00	
YJL176C	SWI3		1.00	
YJR090C	GRR1		0.75	
YKL054C	DEF1		0.75	
YKL109W	HAP4		1.00	
YLR240W	VPS34		0.75	
YLR260W	LCB5		0.75	
YLR377C	FBP1		0.75	
YMR021C	MAC1		0.75	
YOR358W	HAP5		1.00	
YPR124W	CTR1		0.75	
Unknown function				
YDR065W	RRG1	mitochondrial	1.00	
YDR114C			1.00	MRX14 (pet score: 0.75)

ORF	standard name	Morgenstern et al. (2017)	<i>pet</i> score	overlapping ORFs
<i>YLL033W</i>	<i>IRC19</i>	mitochondrial	0.75	
<i>YMR066W</i>	<i>SOV1</i>	mitochondrial	0.75	
<i>YNL184C</i>			1.00	<i>MRPL19</i> (<i>pet</i> score: 1.00)
<i>YNL213C</i>	<i>RRG9</i>	mitochondrial	1.00	
<i>YOR305W</i>	<i>RRG7</i>	mitochondrial	1.00	
Dubious ORFs				
<i>YBL100C</i>			0.75	<i>ATP1</i> (<i>pet</i> score: 1.00)
<i>YCL007C</i>			1.00	<i>VMA9</i> (<i>pet</i> score: 1.00)
<i>YDL068W</i>			0.75	<i>CBS1</i> (<i>pet</i> score: 0.75)
<i>YDR230W</i>			1.00	<i>COX20</i> (<i>pet</i> score: 0.75)
<i>YGL218W</i>			0.75	<i>MDM34</i> (<i>pet</i> score: 0.00)
<i>YGR219W</i>			0.75	<i>MRPL9</i> (<i>pet</i> score: 1.00)
<i>YJL120W</i>			0.75	<i>RPE1</i> (<i>pet</i> score: 0.50)
<i>YJR114W</i>			1.00	<i>RSM7</i> (<i>pet</i> score: 1.00)
<i>YKL169C</i>			1.00	<i>MRPL38</i> (<i>pet</i> score: 1.00)
<i>YLR202C</i>			1.00	<i>MSS51</i> (<i>pet</i> score: 1.00) and <i>COQ9</i> (<i>pet</i> score: 0.75)
<i>YNL170W</i>			0.75	<i>PSD1</i> (<i>pet</i> score: 0.00)
<i>YOR200W</i>			1.00	<i>MRM1</i> (<i>pet</i> score: 0.50)
<i>YOR331C</i>			1.00	<i>VMA4</i> (<i>pet</i> score: 0.75)
<i>YPR099C</i>			0.75	<i>MRPL51</i> (<i>pet</i> score: 0.75)

Table S3. Results of the cytoduction screen. This table contains the systematic gene name according to SGD, the standard gene name according to SGD, and the *pet* score. Class I mutants showed a *pet* phenotype before and after cytoduction, class II mutants showed a *pet* phenotype only before cytoduction and were rescued by replenishment of intact mtDNA, and class III mutants acquired a *pet* phenotype only after cytoduction. It is indicated whether this behavior was reproduced in an independent experiment.

Stenger et al. - Table S3

ORF	standard name	pet score	reproducible	class
YAL016W	TPD3	0.75	no	class I
YBL022C	PIM1	0.50	yes	class I
YBL038W	MRPL16	0.75	yes	class I
YBL045C	COR1	1.00	yes	class I
YBL080C	PET112	0.75	no	class I
YBL090W	MRP21	1.00	yes	class I
YBR003W	COQ1	1.00	yes	class I
YBR037C	SCO1	0.75	yes	class I
YBR120C	CBP6	0.50	yes	class I
YBR179C	FZO1	0.75	yes	class I
YBR251W	MRPS5	0.75	yes	class I
YBR268W	MRPL37	0.75	yes	class I
YBR282W	MRPL27	1.00	yes	class I
YCL005W-A	VMA9	1.00	yes	class I
YCL007C		1.00	yes	class I
YCR003W	MRPL32	1.00	yes	class I
YCR024C	SLM5	1.00	yes	class I
YCR028C-A	RIM1	1.00	yes	class I
YCR071C	IMG2	1.00	yes	class I
YDL067C	COX9	1.00	yes	class I
YDL069C	CBS1	0.75	yes	class I
YDL072C	YET3	0.25	no	class I
YDL107W	MSS2	1.00	yes	class I
YDL167C	NRP1	0.50	yes	class I
YDL185W	VMA1	1.00	yes	class I
YDL198C	GGC1	0.75	yes	class I
YDL202W	MRPL11	0.75	yes	class I
YDR065W	RRG1	1.00	yes	class I
YDR079C-A	TFB5	0.33	no	class I
YDR079W	PET100	1.00	yes	class I
YDR114C		1.00	yes	class I
YDR138W	HPR1	0.25	yes	class I
YDR148C	KGD2	1.00	yes	class I
YDR175C	RSM24	1.00	yes	class I
YDR230W		1.00	yes	class I
YDR231C	COX20	0.75	yes	class I
YDR268W	MSW1	0.75	yes	class I
YDR298C	ATP5	1.00	yes	class I
YDR300C	PRO1	0.25	yes	class I
YDR322W	MRPL35	0.50	yes	class I
YDR347W	MRP1	0.75	yes	class I
YDR350C	ATP22	0.75	yes	class I
YDR375C	BCS1	0.75	yes	class I
YDR377W	ATP17	1.00	yes	class I
YDR405W	MRP20	0.75	yes	class I
YDR470C	UGO1	0.25	yes	class I
YDR477W	SNF1	0.75	no	class I
YDR529C	QCR7	0.75	yes	class I

ORF	standard name	pet score	reproducible	class
YEL024W	RIP1	1.00	yes	class I
YEL050C	RML2	0.75	yes	class I
YEL059C-A	SOM1	0.67	yes	class I
YER014W	HEM14	0.67	yes	class I
YER050C	RSM18	1.00	yes	class I
YER058W	PET117	0.75	yes	class I
YER087W	AIM10	1.00	yes	class I
YER153C	PET122	0.75	yes	class I
YER154W	OXA1	1.00	yes	class I
YFL016C	MDJ1	1.00	yes	class I
YFL018C	LPD1	0.75	no	class I
YFL036W	RPO41	0.75	yes	class I
YGL071W	AFT1	1.00	no	class I
YGL095C	VPS45	0.50	no	class I
YGL119W	COQ8	0.33	yes	class I
YGL129C	RSM23	1.00	yes	class I
YGL143C	MRF1	1.00	yes	class I
YGR062C	COX18	1.00	yes	class I
YGR101W	PCP1	0.50	yes	class I
YGR105W	VMA21	1.00	yes	class I
YGR112W	SHY1	1.00	yes	class I
YGR150C	CCM1	1.00	yes	class I
YGR165W	MRPS35	0.50	yes	class I
YGR180C	RNR4	1.00	no	class I
YGR215W	RSM27	1.00	yes	class I
YGR219W		0.75	yes	class I
YGR220C	MRPL9	1.00	yes	class I
YGR222W	PET54	1.00	yes	class I
YGR255C	COQ6	0.75	yes	class I
YGR257C	MTM1	0.50	yes	class I
YHL004W	MRP4	1.00	no	class I
YHL038C	CBP2	1.00	yes	class I
YHR011W	DIA4	1.00	yes	class I
YHR026W	VMA16	0.75	yes	class I
YHR051W	COX6	1.00	yes	class I
YHR067W	HTD2	1.00	no	class I
YHR091C	MSR1	1.00	yes	class I
YHR116W	COX23	0.50	yes	class I
YHR147C	MRPL6	1.00	yes	class I
YJL023C	PET130	0.50	yes	class I
YJL046W	AIM22	1.00	yes	class I
YJL096W	MRPL49	1.00	yes	class I
YJL166W	QCR8	0.75	yes	class I
YJL176C	SWI3	1.00	yes	class I
YJL184W	GON7	0.50	no	class I
YJL209W	CBP1	0.75	yes	class I
YJR090C	GRR1	0.75	yes	class I
YJR113C	RSM7	1.00	yes	class I
YJR114W		1.00	yes	class I

ORF	standard name	pet score	reproducible	class
YJR120W		0.50	yes	class I
YJR122W	IBA57	1.00	yes	class I
YJR144W	MGM101	1.00	yes	class I
YKL003C	MRP17	1.00	yes	class I
YKL016C	ATP7	1.00	yes	class I
YKL080W	VMA5	1.00	yes	class I
YKL109W	HAP4	1.00	no	class I
YKL134C	OCT1	1.00	yes	class I
YKL148C	SDH1	0.75	no	class I
YKL155C	RSM22	1.00	yes	class I
YKL169C		1.00	yes	class I
YKL170W	MRPL38	1.00	yes	class I
YKL194C	MST1	1.00	yes	class I
YKR006C	MRPL13	1.00	yes	class I
YLL018C-A	COX19	1.00	yes	class I
YLL027W	ISA1	1.00	yes	class I
YLR038C	COX12	1.00	yes	class I
YLR067C	PET309	1.00	yes	class I
YLR139C	SLS1	1.00	yes	class I
YLR201C	COQ9	0.75	yes	class I
YLR202C		1.00	yes	class I
YLR203C	MSS51	1.00	yes	class I
YLR239C	LIP2	0.75	yes	class I
YLR240W	VPS34	0.75	yes	class I
YLR312W-A	MRPL15	1.00	yes	class I
YLR368W	MDM30	0.25	yes	class I
YLR396C	VPS33	0.75	yes	class I
YLR447C	VMA6	1.00	yes	class I
YML110C	COQ5	0.75	yes	class I
YMR021C	MAC1	0.75	yes	class I
YMR035W	IMP2	0.75	yes	class I
YMR064W	AEP1	1.00	yes	class I
YMR066W	SOV1	0.75	yes	class I
YMR098C	ATP25	1.00	yes	class I
YMR150C	IMP1	1.00	yes	class I
YMR228W	MTF1	1.00	yes	class I
YMR256C	COX7	1.00	yes	class I
YMR257C	PET111	1.00	yes	class I
YMR267W	PPA2	1.00	yes	class I
YMR286W	MRPL33	1.00	yes	class I
YMR293C	HER2	1.00	yes	class I
YNL005C	MRP7	1.00	yes	class I
YNL073W	MSK1	1.00	yes	class I
YNL081C	SWS2	1.00	yes	class I
YNL177C	MRPL22	1.00	yes	class I
YNL184C		1.00	yes	class I
YNL213C	RRG9	1.00	yes	class I
YNL284C	MRPL10	0.75	yes	class I
YNR036C	MRPS12	0.75	yes	class I

ORF	standard name	pet score	reproducible	class
YNR037C	RSM19	1.00	yes	class I
YNR041C	COQ2	1.00	yes	class I
YNR045W	PET494	0.75	yes	class I
YOL033W	MSE1	1.00	yes	class I
YOL071W	SDH5	0.75	yes	class I
YOL096C	COQ3	0.75	yes	class I
YOR065W	CYT1	1.00	yes	class I
YOR125C	CAT5	0.75	yes	class I
YOR150W	MRPL23	1.00	yes	class I
YOR158W	PET123	1.00	yes	class I
YOR187W	TUF1	1.00	yes	class I
YOR199W		0.50	no	class I
YOR200W		1.00	yes	class I
YOR201C	MRM1	0.50	yes	class I
YOR205C	GEP3	0.75	yes	class I
YOR211C	MGM1	1.00	yes	class I
YOR330C	MIP1	1.00	yes	class I
YOR331C		1.00	yes	class I
YOR350C	MNE1	0.75	yes	class I
YOR358W	HAP5	1.00	yes	class I
YPL005W	AEP3	0.75	yes	class I
YPL013C	MRPS16	1.00	yes	class I
YPL029W	SUV3	0.75	yes	class I
YPL059W	GRX5	0.75	yes	class I
YPL078C	ATP4	1.00	yes	class I
YPL097W	MSY1	1.00	yes	class I
YPL118W	MRP51	0.75	yes	class I
YPL172C	COX10	1.00	yes	class I
YPL173W	MRPL40	1.00	yes	class I
YPL262W	FUM1	0.75	yes	class I
YPL271W	ATP15	1.00	yes	class I
YPR047W	MSF1	0.75	yes	class I
YPR066W	UBA3	0.50	no	class I
YPR067W	ISA2	1.00	yes	class I
YPR100W	MRPL51	0.75	yes	class I
YPR116W	RRG8	1.00	yes	class I
YPR124W	CTR1	0.75	yes	class I
YAL012W	CYS3	0.75	yes	class II
YAL044C	GCV3	1.00	yes	class II
YAL048C	GEM1	0.50	yes	class II
YBL002W	HTB2	0.50	yes	class II
YBL044W		0.50	yes	class II
YBR026C	ETR1	1.00	yes	class II
YBR122C	MRPL36	1.00	yes	class II
YCR004C	YCP4	0.50	yes	class II
YCR046C	IMG1	1.00	no	class II
YDL032W		0.50	yes	class II
YDL040C	NAT1	0.25	yes	class II
YDL063C	SYO1	0.50	yes	class II

ORF	standard name	pet score	reproducible	class
YDL133C-A	RPL41B	0.25	yes	class II
YDL146W	LDB17	0.50	yes	class II
YDL206W		0.25	yes	class II
YDR042C		0.50	yes	class II
YDR078C	SHU2	0.50	yes	class II
YDR116C	MRPL1	0.50	yes	class II
YDR178W	SDH4	0.25	yes	class II
YDR493W	MZM1	0.25	yes	class II
YDR507C	GIN4	0.50	yes	class II
YDR512C	EMI1	0.50	yes	class II
YDR518W	EUG1	0.50	yes	class II
YDR521W		0.25	yes	class II
YDR523C	SPS1	0.50	yes	class II
YEL036C	ANP1	0.25	yes	class II
YER061C	CEM1	1.00	yes	class II
YER103W	SSA4	0.50	yes	class II
YER110C	KAP123	0.50	yes	class II
YER122C	GLO3	0.50	yes	class II
YER169W	RPH1	0.50	yes	class II
YFR048W	RMD8	0.25	yes	class II
YGL084C	GUP1	0.25	yes	class II
YGL107C	RMD9	0.75	no	class II
YGL115W	SNF4	0.75	yes	class II
YGL198W	YIP4	0.25	yes	class II
YGL220W	BOL2	0.50	yes	class II
YGL240W	DOC1	0.75	yes	class II
YGR157W	CHO2	0.25	yes	class II
YGR174C	CBP4	0.75	yes	class II
YGR183C	QCR9	0.50	yes	class II
YHR050W-A		0.33	yes	class II
YHR120W	MSH1	1.00	yes	class II
YHR175W-A		0.33	yes	class II
YIL012W		0.25	yes	class II
YIL041W	GVP36	0.25	yes	class II
YJL027C		0.25	yes	class II
YJR004C	SAG1	0.50	yes	class II
YJR060W	CBF1	0.25	yes	class II
YJR150C	DAN1	0.25	yes	class II
YKL002W	DID4	0.75	no	class II
YKL040C	NFU1	0.75	yes	class II
YKL054C	DEF1	0.75	yes	class II
YKL087C	CYT2	0.75	yes	class II
YKL137W	CMC1	0.50	yes	class II
YKL208W	CBT1	0.50	no	class II
YKL212W	SAC1	0.50	yes	class II
YLL006W	MMM1	0.50	yes	class II
YLL041C	SDH2	0.75	yes	class II
YLR114C	AVL9	0.50	yes	class II
YLR200W	YKE2	0.25	yes	class II

ORF	standard name	pet score	reproducible	class
YLR204W	QRI5	0.50	yes	class II
YLR288C	MEC3	0.25	yes	class II
YLR369W	SSQ1	0.75	yes	class II
YLR377C	FBP1	0.75	yes	class II
YLR393W	ATP10	0.75	yes	class II
YML088W	UFO1	0.50	yes	class II
YMR063W	RIM9	0.50	yes	class II
YMR067C	UBX4	0.50	yes	class II
YMR071C	TVP18	0.50	yes	class II
YMR072W	ABF2	1.00	yes	class II
YMR084W		0.50	yes	class II
YMR089C	YTA12	1.00	yes	class II
YMR184W	ADD37	0.50	yes	class II
YMR207C	HFA1	0.50	yes	class II
YNL052W	COX5A	1.00	no	class II
YNL133C	FYV6	0.25	yes	class II
YNL160W	YGP1	0.50	yes	class II
YNL162W	RPL42A	0.50	yes	class II
YNL170W		0.75	yes	class II
YNL225C	CNM67	0.50	yes	class II
YNR020C	ATP23	0.50	yes	class II
YOL008W	COQ10	0.75	yes	class II
YOL023W	IFM1	0.75	yes	class II
YOL100W	PKH2	0.50	yes	class II
YOR026W	BUB3	0.25	yes	class II
YOR037W	CYC2	0.50	yes	class II
YOR241W	MET7	1.00	yes	class II
YOR290C	SNF2	0.50	yes	class II
YOR295W	UAF30	0.25	yes	class II
YOR305W	RRG7	1.00	yes	class II
YPL159C	PET20	0.25	yes	class II
YAL047C	SPC72	0.50	no	class III
YBL021C	HAP3	0.75	yes	class III
YBR018C	GAL7	0.00	yes	class III
YBR019C	GAL10	0.00	yes	class III
YBR020W	GAL1	0.00	yes	class III
YBR036C	CSG2	0.25	no	class III
YBR097W	VPS15	0.33	yes	class III
YCR053W	THR4	0.00	yes	class III
YCR095W-A		0.00	no	class III
YDL041W		0.00	yes	class III
YDL042C	SIR2	0.00	yes	class III
YDL090C	RAM1	0.00	yes	class III
YDL160C-A	MHF2	0.00	yes	class III
YDR005C	MAF1	0.00	no	class III
YDR076W	RAD55	0.00	no	class III
YDR103W	STE5	0.00	yes	class III
YDR126W	SWF1	0.00	no	class III
YDR227W	SIR4	0.00	yes	class III

ORF	standard name	pet score	reproducible	class
YDR269C		0.25	no	class III
YDR270W	CCC2	0.50	yes	class III
YDR296W	MHR1	0.75	yes	class III
YDR461W	MFA1	0.00	yes	class III
YEL004W	YEA4	0.00	yes	class III
YEL029C	BUD16	0.25	yes	class III
YEL051W	VMA8	0.75	yes	class III
YEL072W	RMD6	0.00	no	class III
YER052C	HOM3	0.00	no	class III
YFL026W	STE2	0.00	yes	class III
YGL012W	ERG4	0.00	no	class III
YGL156W	AMS1	0.00	yes	class III
YGL168W	HUR1	0.00	no	class III
YGL206C	CHC1	0.50	yes	class III
YGR262C	BUD32	0.25	no	class III
YHL007C	STE20	0.00	no	class III
YHR005C	GPA1	0.00	yes	class III
YHR010W	RPL27A	0.00	no	class III
YHR013C	ARD1	0.00	no	class III
YHR018C	ARG4	0.00	no	class III
YHR030C	SLT2	0.00	yes	class III
YHR130C		0.00	no	class III
YHR177W	ROF1	0.00	yes	class III
YIL084C	SDS3	0.00	yes	class III
YIR009W	MSL1	0.00	no	class III
YIR034C	LYS1	0.00	no	class III
YJL088W	ARG3	0.00	no	class III
YJL094C	KHA1	0.00	no	class III
YJL095W	BCK1	0.00	yes	class III
YJR005C-A	LSO1	0.00	yes	class III
YJR040W	GEF1	0.50	no	class III
YJR086W	STE18	0.00	yes	class III
YKL135C	APL2	0.00	yes	class III
YLR023C	IZH3	0.00	no	class III
YLR027C	AAT2	0.00	yes	class III
YLR091W	GEP5	0.75	yes	class III
YLR244C	MAP1	0.00	no	class III
YLR308W	CDA2	0.00	yes	class III
YLR320W	MMS22	0.00	no	class III
YLR362W	STE11	0.00	yes	class III
YLR418C	CDC73	0.00	yes	class III
YLR439W	MRPL4	0.75	no	class III
YLR442C	SIR3	0.00	yes	class III
YML008C	ERG6	0.00	no	class III
YML022W	APT1	0.00	no	class III
YMR001C-A		0.00	no	class III
YMR058W	FET3	0.50	no	class III
YMR097C	MTG1	0.75	yes	class III
YMR158W	MRPS8	0.75	yes	class III

ORF	standard name	pet score	reproducible	class
<i>YMR287C</i>	<i>DSS1</i>	0.75	yes	class III
<i>YNL080C</i>	<i>EOS1</i>	0.25	yes	class III
<i>YNR048W</i>		0.00	yes	class III
<i>YNR068C</i>		0.00	no	class III
<i>YOL058W</i>	<i>ARG1</i>	0.00	no	class III
<i>YOL093W</i>	<i>TRM10</i>	0.00	no	class III
<i>YOL162W</i>		0.00	no	class III
<i>YOR033C</i>	<i>EXO1</i>	0.00	yes	class III
<i>YOR212W</i>	<i>STE4</i>	0.00	yes	class III
<i>YOR371C</i>	<i>GPB1</i>	0.00	yes	class III
<i>YPL006W</i>	<i>NCR1</i>	0.00	yes	class III
<i>YPL031C</i>	<i>PHO85</i>	0.50	no	class III
<i>YPL045W</i>	<i>VPS16</i>	0.75	no	class III
<i>YPL049C</i>	<i>DIG1</i>	0.00	yes	class III
<i>YPL248C</i>	<i>GAL4</i>	0.00	no	class III
<i>YPL254W</i>	<i>HFI1</i>	0.50	yes	class III
<i>YPL270W</i>	<i>MDL2</i>	0.00	no	class III
<i>YPR021C</i>	<i>AGC1</i>	0.00	no	class III

Table S4. Genomic complementation of class II *pet* mutants by crossing with $\Delta mip1$. This table contains the systematic gene name according to SGD, the standard gene name according to SGD, the *pet* score, and the rescue of the *pet* phenotype in heterozygous diploid strains.

Stenger et al. - Table S4

ORF	standard name	<i>pet</i> score	$\Delta mip1$ cross
YGR174C	<i>CBP4</i>	0.75	rescued
YHR050W-A		0.33	rescued
YLR393W	<i>ATP10</i>	0.75	rescued
YAL048C	<i>GEM1</i>	0.50	not rescued
YBL002W	<i>HTB2</i>	0.50	not rescued
YBL044W		0.50	not rescued
YBR122C	<i>MRPL36</i>	1.00	not rescued
YCR004C	<i>YCP4</i>	0.50	not rescued
YCR046C	<i>IMG1</i>	1.00	not rescued
YDL040C	<i>NAT1</i>	0.25	not rescued
YDL063C	<i>SYO1</i>	0.50	not rescued
YDL133C-A	<i>RPL41B</i>	0.25	not rescued
YDL146W	<i>LDB17</i>	0.50	not rescued
YDR042C		0.50	not rescued
YDR078C	<i>SHU2</i>	0.50	not rescued
YDR507C	<i>GIN4</i>	0.50	not rescued
YDR518W	<i>EUG1</i>	0.50	not rescued
YDR521W		0.25	not rescued
YDR523C	<i>SPS1</i>	0.50	not rescued
YEL036C	<i>ANP1</i>	0.25	not rescued
YER103W	<i>SSA4</i>	0.50	not rescued
YER110C	<i>KAP123</i>	0.50	not rescued
YER122C	<i>GLO3</i>	0.50	not rescued
YER169W	<i>RPH1</i>	0.50	not rescued
YGL107C	<i>RMD9</i>	0.75	not rescued
YGL220W	<i>BOL2</i>	0.50	not rescued
YGL240W	<i>DOC1</i>	0.75	not rescued
YHR120W	<i>MSH1</i>	1.00	not rescued
YHR175W-A		0.33	not rescued
YIL012W		0.25	not rescued
YIL041W	<i>GVP36</i>	0.25	not rescued
YJL027C		0.25	not rescued
YJR004C	<i>SAG1</i>	0.50	not rescued
YJR150C	<i>DAN1</i>	0.25	not rescued
YLL006W	<i>MMM1</i>	0.50	not rescued
YLR114C	<i>AVL9</i>	0.50	not rescued
YLR204W	<i>QRI5</i>	0.50	not rescued
YLR288C	<i>MEC3</i>	0.25	not rescued
YLR369W	<i>SSQ1</i>	0.75	not rescued
YML088W	<i>UFO1</i>	0.50	not rescued
YMR071C	<i>TVP18</i>	0.50	not rescued
YMR072W	<i>ABF2</i>	1.00	not rescued
YMR084W		0.50	not rescued
YMR184W	<i>ADD37</i>	0.50	not rescued
YNL160W	<i>YGP1</i>	0.50	not rescued
YNL170W		0.75	not rescued
YNL225C	<i>CNM67</i>	0.50	not rescued
YOL100W	<i>PKH2</i>	0.50	not rescued

ORF	standard name	<i>pet</i> score	$\Delta mip1$ cross
<i>YOR241W</i>	<i>MET7</i>	1.00	not rescued
<i>YOR295W</i>	<i>UAF30</i>	0.25	not rescued
<i>YOR305W</i>	<i>RRG7</i>	1.00	not rescued

Table S5. Genes required for maintenance of [*ARG8^m*] mtDNA and expression of Arg8^m in mitochondria. This table contains the systematic gene name according to SGD, the standard gene name according to SGD, the *pet* score, the results of the *ARG8^m* screen, and for dubious ORFs a list of overlapping genomic features according to SGD. The table indicates how many independent biological replicates could be analyzed for each mutant and whether these behaved identically. 22 mutants that are either defective in arginine biosynthesis or mating or carry deletions of dubious ORFs are listed at the end of the table. They were excluded from further analysis.

Stenger et al. - Table S5

ORF	standard name	<i>pet</i> score	replicates	screen result	reproduced	overlapping ORFs
mtDNA metabolism						
YCR028C-A	<i>RIM1</i>	1.00	2	no rescue	yes	
YJR144W	<i>MGM101</i>	1.00	2	no rescue	yes	
YOR330C	<i>MIP1</i>	1.00	2	no rescue	no	
Mitochondrial transcription						
YFL036W	<i>RPO41</i>	0.75	2	no rescue	yes	
YMR228W	<i>MTF1</i>	1.00	2	no rescue	yes	
Mitochondrial translation and RNA maturation						
YBL038W	<i>MRPL16</i>	0.75	2	ambiguous	yes	
YBL080C	<i>PET112</i>	0.75	2	rescue	yes	
YBL090W	<i>MRP21</i>	1.00	2	no rescue	yes	
YBR251W	<i>MRPS5</i>	0.75	2	rescue	yes	
YBR268W	<i>MRPL37</i>	0.75	2	ambiguous	yes	
YBR282W	<i>MRPL27</i>	1.00	2	ambiguous	yes	
YCR003W	<i>MRPL32</i>	1.00	2	rescue	yes	
YCR024C	<i>SLM5</i>	1.00	2	no rescue	yes	
YCR046C	<i>IMG1</i>	1.00	2	no rescue	yes	
YCR071C	<i>IMG2</i>	1.00	2	rescue	yes	
YDL202W	<i>MRPL11</i>	0.75	2	no rescue	yes	
YDR175C	<i>RSM24</i>	1.00	2	no rescue	yes	
YDR268W	<i>MSW1</i>	0.75	2	no rescue	yes	
YDR296W	<i>MHR1</i>	0.75	2	rescue	yes	
YDR322W	<i>MRPL35</i>	0.50	2	ambiguous	no	
YDR350C	<i>ATP22</i>	0.75	2	ambiguous	yes	
YDR405W	<i>MRP20</i>	0.75	2	ambiguous	no	
YEL050C	<i>RML2</i>	0.75	2	ambiguous	yes	
YER050C	<i>RSM18</i>	1.00	2	no rescue	yes	
YER087W	<i>AIM10</i>	1.00	2	rescue	yes	
YGL107C	<i>RMD9</i>	0.75	1	no rescue	nd	
YGL129C	<i>RSM23</i>	1.00	2	no rescue	yes	
YGL143C	<i>MRF1</i>	1.00	1	rescue	nd	
YGR150C	<i>CCM1</i>	1.00	2	ambiguous	no	
YGR165W	<i>MRPS35</i>	0.50	2	no rescue	yes	
YGR215W	<i>RSM27</i>	1.00	2	no rescue	yes	
YGR220C	<i>MRPL9</i>	1.00	2	rescue	yes	
YHL004W	<i>MRP4</i>	1.00	2	no rescue	yes	
YHR011W	<i>DIA4</i>	1.00	2	no rescue	no	
YHR091C	<i>MSR1</i>	1.00	2	no rescue	no	
YHR147C	<i>MRPL6</i>	1.00	2	rescue	yes	
YJL023C	<i>PET130</i>	0.50	1	no rescue	nd	
YJL096W	<i>MRPL49</i>	1.00	2	ambiguous	yes	
YJR113C	<i>RSM7</i>	1.00	2	rescue	yes	
YKL003C	<i>MRP17</i>	1.00	1	ambiguous	nd	
YKL155C	<i>RSM22</i>	1.00	2	no rescue	no	
YKL170W	<i>MRPL38</i>	1.00	1	rescue	nd	
YKL194C	<i>MST1</i>	1.00	2	no rescue	yes	
YKR006C	<i>MRPL13</i>	1.00	2	rescue	no	
YKR085C	<i>MRPL20</i>	0.75	1	no rescue	nd	

ORF	standard name	pet score	replicates	screen result	reproduced	overlapping ORFs
YLR139C	SLS1	1.00	2	ambiguous	no	
YLR204W	QR15	0.50	1	rescue	nd	
YMR097C	MTG1	0.75	2	rescue	yes	
YMR257C	PET111	1.00	2	rescue	yes	
YMR286W	MRPL33	1.00	2	no rescue	no	
YMR293C	HER2	1.00	2	rescue	yes	
YNL005C	MRP7	1.00	2	no rescue	no	
YNL073W	MSK1	1.00	2	no rescue	yes	
YNL081C	SWS2	1.00	2	no rescue	yes	
YNL177C	MRPL22	1.00	2	rescue	yes	
YNL252C	MRPL17	0.75	2	no rescue	yes	
YNL284C	MRPL10	0.75	1	no rescue	nd	
YNR036C	MRPS12	0.75	1	no rescue	nd	
YNR037C	RSM19	1.00	2	no rescue	yes	
YOL023W	IFM1	0.75	2	rescue	no	
YOL033W	MSE1	1.00	2	rescue	no	
YOR150W	MRPL23	1.00	2	ambiguous	no	
YOR158W	PET123	1.00	2	no rescue	yes	
YOR187W	TUF1	1.00	2	no rescue	yes	
YOR201C	MRM1	0.50	2	rescue	yes	
YOR205C	GEP3	0.75	2	rescue	yes	
YPL005W	AEP3	0.75	2	no rescue	yes	
YPL013C	MRPS16	1.00	1	no rescue	nd	
YPL097W	MSY1	1.00	2	no rescue	yes	
YPL118W	MRP51	0.75	2	no rescue	yes	
YPL173W	MRPL40	1.00	2	no rescue	no	
YPL183W-A	RTC6	0.50	2	no rescue	no	
YPR047W	MSF1	0.75	2	rescue	yes	
YPR100W	MRPL51	0.75	2	no rescue	no	
YPR116W	RRG8	1.00	1	no rescue	nd	
Respiratory chain components and assembly factors						
YDR178W	SDH4	0.25	2	rescue	yes	
YDR377W	ATP17	1.00	1	rescue	nd	
YJL166W	QCR8	0.75	2	no rescue	no	
YKL016C	ATP7	1.00	1	rescue	nd	
YNL052W	COX5A	1.00	2	no rescue	no	
YPL271W	ATP15	1.00	1	rescue	nd	
Mitochondrial fusion						
YBR179C	FZO1	0.75	2	no rescue	yes	
YDR470C	UGO1	0.25	2	no rescue	yes	
YGR101W	PCP1	0.50	2	no rescue	yes	
YOR211C	MGM1	1.00	2	no rescue	no	
Other mitochondrial function						
YBL022C	PIM1	0.50	1	rescue	nd	
YBR084W	MIS1	0.00	1	rescue	nd	
YDL198C	GGC1	0.75	2	rescue	no	
YER057C	HMF1	0.00	2	no rescue	no	
YER154W	OXA1	1.00	2	rescue	yes	
YFL016C	MDJ1	1.00	2	no rescue	yes	

ORF	standard name	pet score	replicates	screen result	reproduced	overlapping ORFs
<i>YGR257C</i>	<i>MTM1</i>	0.50	2	rescue	yes	
<i>YJL200C</i>	<i>ACO2</i>	0.00	1	rescue	nd	
<i>YKL134C</i>	<i>OCT1</i>	1.00	2	no rescue	yes	
<i>YMR267W</i>	<i>PPA2</i>	1.00	2	ambiguous	no	
<i>YOR045W</i>	<i>TOM6</i>	0.00	2	rescue	no	
<i>YPL029W</i>	<i>SUV3</i>	0.75	2	rescue	yes	
<i>YPL059W</i>	<i>GRX5</i>	0.75	1	rescue	nd	
<i>YPL188W</i>	<i>POS5</i>	0.25	1	rescue	nd	
<i>YPL270W</i>	<i>MDL2</i>	0.00	2	rescue	yes	
Vacuole-related function						
<i>YCL005W-A</i>	<i>VMA9</i>	1.00	1	rescue	nd	
<i>YDR069C</i>	<i>DOA4</i>	0.25	1	rescue	nd	
<i>YDR136C</i>	<i>VPS61</i>	0.00	2	rescue	no	
<i>YEL027W</i>	<i>VMA3</i>	0.75	1	rescue	nd	
<i>YEL051W</i>	<i>VMA8</i>	0.75	2	ambiguous	no	
<i>YGL095C</i>	<i>VPS45</i>	0.50	2	ambiguous	yes	
<i>YGR105W</i>	<i>VMA21</i>	1.00	2	rescue	yes	
<i>YHR026W</i>	<i>VMA16</i>	0.75	1	rescue	nd	
<i>YKLO02W</i>	<i>DID4</i>	0.75	1	rescue	nd	
<i>YKLO41W</i>	<i>VPS24</i>	0.00	2	rescue	yes	
<i>YKLO80W</i>	<i>VMA5</i>	1.00	1	rescue	nd	
<i>YLR261C</i>	<i>VPS63</i>	0.00	1	rescue	nd	
<i>YLR396C</i>	<i>VPS33</i>	0.75	2	no rescue	yes	
<i>YLR417W</i>	<i>VPS36</i>	0.00	2	ambiguous	yes	
<i>YOR106W</i>	<i>VAM3</i>	0.00	2	rescue	yes	
<i>YPL002C</i>	<i>SNF8</i>	0.00	2	rescue	yes	
<i>YPL084W</i>	<i>BRO1</i>	0.00	1	rescue	nd	
Other function						
<i>YBR019C</i>	<i>GAL10</i>	0.00	2	rescue	yes	
<i>YBR020W</i>	<i>GAL1</i>	0.00	1	no rescue	nd	
<i>YBR191W</i>	<i>RPL21A</i>	0.00	2	ambiguous	no	
<i>YBR270C</i>	<i>BIT2</i>	0.00	2	rescue	no	
<i>YDR005C</i>	<i>MAF1</i>	0.00	2	rescue	yes	
<i>YDR017C</i>	<i>KCS1</i>	0.00	2	rescue	no	
<i>YDR079C-A</i>	<i>TFB5</i>	0.33	2	rescue	no	
<i>YDR123C</i>	<i>INO2</i>	0.00	2	rescue	no	
<i>YDR138W</i>	<i>HPR1</i>	0.25	2	no rescue	yes	
<i>YDR244W</i>	<i>PEX5</i>	0.00	2	rescue	yes	
<i>YDR289C</i>	<i>RTT103</i>	0.00	1	rescue	nd	
<i>YDR349C</i>	<i>YPS7</i>	0.00	2	rescue	no	
<i>YDR477W</i>	<i>SNF1</i>	0.75	1	rescue	nd	
<i>YEL044W</i>	<i>IES6</i>	0.25	1	no rescue	nd	
<i>YEL062W</i>	<i>NPR2</i>	0.00	1	rescue	nd	
<i>YER070W</i>	<i>RNR1</i>	0.50	1	ambiguous	nd	
<i>YFL053W</i>	<i>DAK2</i>	0.00	2	rescue	no	
<i>YGL023C</i>	<i>PIB2</i>	0.00	2	rescue	no	
<i>YGL084C</i>	<i>GUP1</i>	0.25	2	no rescue	yes	
<i>YGL203C</i>	<i>KEX1</i>	0.00	2	rescue	no	
<i>YGR077C</i>	<i>PEX8</i>	0.00	2	rescue	no	

ORF	standard name	pet score	replicates	screen result	reproduced	overlapping ORFs
YHL011C	PRS3	0.00	2	no rescue	yes	
YJL121C	RPE1	0.50	1	rescue	nd	
YJL157C	FAR1	0.00	1	no rescue	nd	
YJR073C	OPI3	0.00	2	rescue	yes	
YKL038W	RGT1	0.00	1	ambiguous	nd	
YKL179C	COY1	0.00	2	rescue	no	
YKR055W	RHO4	0.00	1	rescue	nd	
YLR182W	SWI6	0.00	2	no rescue	no	
YLR350W	ORM2	0.25	2	no rescue	no	
YLR351C	NIT3	0.00	2	no rescue	no	
YLR403W	SFP1	0.00	1	rescue	nd	
YMR180C	CTL1	0.00	2	rescue	no	
YMR285C	NGL2	0.00	2	rescue	no	
YNL064C	YDJ1	0.25	2	no rescue	no	
YNL286W	CUS2	0.00	2	rescue	no	
YNL323W	LEM3	0.00	1	rescue	nd	
YNL327W	EGT2	0.00	2	rescue	no	
YOL039W	RPP2A	0.00	2	no rescue	no	
YOL081W	IRA2	0.00	1	rescue	nd	
YOL108C	INO4	0.00	1	rescue	nd	
YOL145C	CTR9	0.00	1	rescue	nd	
YOR014W	RTS1	0.00	1	rescue	nd	
YOR021C	SFM1	0.00	2	rescue	no	
YOR027W	STI1	0.00	2	no rescue	no	
YOR171C	LCB4	0.00	2	rescue	no	
YOR295W	UAF30	0.25	1	no rescue	nd	
YOR307C	SLY41	0.00	2	rescue	no	
YPL031C	PHO85	0.50	1	ambiguous	nd	
YPL069C	BTS1	0.00	2	ambiguous	no	
Unknown function						
YDR065W	RRG1	1.00	2	rescue	yes	
YDR114C		1.00	2	rescue	no	MRX14
YLR255C		0.00	2	no rescue	no	
YMR066W	SOV1	0.75	2	no rescue	yes	
YNL133C	FYV6	0.25	2	rescue	yes	
YNL184C		1.00	1	no rescue	nd	MRPL19
YNL213C	RRG9	1.00	1	rescue	nd	
YPL056C	LCL1	0.00	1	no rescue	nd	
YPL205C		0.00	2	rescue	no	
Arginine biosynthesis						
YER069W	ARG5,6	0.00	2	rescue	yes	
YHR018C	ARG4	0.00	2	rescue	yes	
YJL088W	ARG3	0.00	2	rescue	yes	
YJR109C	CPA2	0.00	2	rescue	yes	
YOL058W	ARG1	0.00	2	rescue	yes	
YOR303W	CPA1	0.00	2	rescue	yes	
Dubious ORF						
YCL007C		1.00	2	rescue	no	VMA9
YER068C-A		0.00	2	rescue	yes	ARG5,6

ORF	standard name	pet score	replicates	screen result	reproduced	overlapping ORFs
<i>YGL218W</i>		0.75	2	rescue	no	<i>MDM34</i>
<i>YGR219W</i>		0.75	2	rescue	yes	<i>MRPL9</i>
<i>YJL120W</i>		0.75	2	ambiguous	no	<i>RPE1</i>
<i>YJL175W</i>		0.25	1	no rescue	nd	<i>SWI3</i>
<i>YJR114W</i>		1.00	2	no rescue	yes	<i>RSM7</i>
<i>YKL076C</i>	<i>PSY1</i>	0.00	1	no rescue	nd	<i>YKL075C</i>
<i>YKL169C</i>		1.00	2	rescue	yes	<i>MRPL38</i>
<i>YKL177W</i>		0.00	2	no rescue	yes	<i>STE3</i>
Mating						
<i>YCR020W-B</i>	<i>HTL1</i>	0.25	1	no rescue	nd	
<i>YGL032C</i>	<i>AGA2</i>	0.00	2	rescue	no	
<i>YHL007C</i>	<i>STE20</i>	0.00	1	no rescue	nd	
<i>YKL178C</i>	<i>STE3</i>	0.00	2	no rescue	yes	
<i>YLR452C</i>	<i>SST2</i>	0.00	2	no rescue	no	
<i>YML008C</i>	<i>ERG6</i>	0.00	2	no rescue	yes	

Table S6. Genes required for maintenance of [ARG8^m] mtDNA. 89 strains that showed an instable mtDNA phenotype (see Table S5) were re-analyzed by cytoduction with the [ARG8^m rho⁺] mitochondrial genome and mating with the $\Delta arg8$ [rho⁰] strain. Then, cells were stained with DAPI and analyzed by fluorescence microscopy. nd, not determined.

Stenger et al. - Table S6

ORF	standard name	growth on media lacking arginine		DAPI staining:
		after cytoduction	after mating with $\Delta arg8$ [ρ^0]	mtDNA
YPL005W	AEP3	no	no	no
YDR350C	ATP22	no	no	no
YPL069C	BTS1	no	yes	yes
YGR150C	CCM1	nd	nd	nd
YNL052W	COX5A	no	no	no
YHR011W	DIA4	no	no	no
YJL157C	FAR1	no	yes	yes
YBR179C	FZO1	no	no	no
YBR020W	GAL1	no	yes	yes
YGL084C	GUP1	yes	yes	nd
YER057C	HMF1	no	yes	yes
YDR138W	HPR1	no	no	no
YEL044W	IES6	yes	yes	nd
YCR046C	IMG1	no	no	no
YPL056C	LCL1	no	no	no
YFL016C	MDJ1	no	no	no
YOR211C	MGM1	no	no	no
YJR144W	MGM101	no	no	no
YOR330C	MIP1	no	no	no
YKL003C	MRP17	no	no	no
YDR405W	MRP20	no	no	no
YBL090W	MRP21	no	no	no
YHL004W	MRP4	no	no	no
YPL118W	MRP51	no	no	no
YNL005C	MRP7	no	no	no
YNL284C	MRPL10	no	no	no
YDL202W	MRPL11	no	no	no
YBL038W	MRPL16	no	no	no
YNL252C	MRPL17	no	no	no
YKR085C	MRPL20	no	no	no
YOR150W	MRPL23	no	no	no
YBR282W	MRPL27	no	no	no
YMR286W	MRPL33	no	no	yes
YDR322W	MRPL35	no	no	no
YBR268W	MRPL37	no	no	no
YPL173W	MRPL40	no	no	yes
YJL096W	MRPL49	no	no	no
YPR100W	MRPL51	no	no	no
YNR036C	MRPS12	no	no	no
YPL013C	MRPS16	no	no	no
YGR165W	MRPS35	no	no	no
YNL073W	MSK1	no	no	no
YHR091C	MSR1	no	no	yes
YKL194C	MST1	no	no	no
YDR268W	MSW1	no	no	no
YPL097W	MSY1	no	no	no
YMR228W	MTF1	no	no	no

ORF	standard name	growth on media lacking arginine		DAPI staining:
		after cytoduction	after mating with $\Delta arg8$ [<i>rho</i> ⁰]	mtDNA
YLR351C	NIT3	nd	nd	nd
YKL134C	OCT1	no	no	no
YLR350W	ORM2	yes	yes	nd
YGR101W	PCP1	no	no	no
YOR158W	PET123	no	no	no
YJL023C	PET130	no	no	no
YPL031C	PHO85	nd	nd	nd
YMR267W	PPA2	no	no	no
YHL011C	PRS3	yes	yes	nd
YJL166W	QCR8	no	yes	yes
YKLO38W	RGT1	yes	yes	nd
YCR028C-A	RIM1	no	no	no
YGL107C	RMD9	no	no	yes
YEL050C	RML2	no	no	no
YER070W	RNR1	no	yes	yes
YBR191W	RPL21A	no	yes	yes
YFL036W	RPO41	no	no	no
YOL039W	RPP2A	no	no	no
YPR116W	RRG8	no	no	no
YER050C	RSM18	no	no	no
YNR037C	RSM19	no	no	no
YKL155C	RSM22	nd	nd	nd
YGL129C	RSM23	no	no	no
YDR175C	RSM24	no	no	no
YGR215W	RSM27	no	no	no
YPL183W-A	RTC6	nd	nd	nd
YCR024C	SLM5	nd	nd	nd
YLR139C	SLS1	nd	nd	nd
YMR066W	SOV1	no	no	no
YOR027W	STI1	yes	yes	nd
YLR182W	SWI6	nd	nd	nd
YNL081C	SWS2	no	no	no
YOR187W	TUF1	no	no	yes
YOR295W	UAF30	no	no	no
YDR470C	UGO1	no	no	no
YEL051W	VMA8	no	yes	yes
YLR396C	VPS33	no	no	no
YLR417W	VPS36	no	yes	yes
YGL095C	VPS45	no	yes	yes
YNL064C	YDJ1	no	yes	yes
YLR255C	YLR255C	yes	yes	nd
YNL184C	YNL184C	nd	nd	nd

Table S7. Combined results of five systematic screens to identify genes required for maintenance of mtDNA. The column "this study" lists the 57 [*rho*⁰] mutants shown in Table 4; Merz and Westermann (2009) identified 119 mutants lacking mtDNA in the yeast deletion collection after mating with $\Delta mip1$ and cytoduction with wild type mtDNA [18]; Zhang and Singh (2014) identified 102 [*rho*⁰] strains by DAPI staining of 466 *pet* mutants [71]; Göke et al. (2020) identified 180 mutants lacking mtDNA by colony hybridization of the yeast deletion collection with probes specific for mtDNA [72]; and Puddu et al. (2019) identified 303 biological replicates comprising 165 gene deletions with mtDNA copy number of less than 1 by genome sequencing of strains of the yeast deletion collection [73]. It should be noted that the screens performed by Merz and Westermann (2009) [18], Göke et al. (2020) [72], and Puddu et al. (2019) [73] cannot discriminate between [*rho*⁰] and [*rho*⁻] strains.

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Stenger et al. - Table S7

Standard name	ORF	<i>pet</i> score	wt mtDNA present				
			this study	ref. [18]	ref. [71]	ref. [72]	ref. [73]
Lack of mtDNA reported in all five screens							
<i>DIA4</i>	<i>YHR011W</i>	1.00	no	no	no	no	no
<i>FZO1</i>	<i>YBR179C</i>	0.75	no	no	no	no	no
<i>MDJ1</i>	<i>YFL016C</i>	1.00	no	no	no	no	no
<i>MGM101</i>	<i>YJR144W</i>	1.00	no	no	no	no	no
<i>MIP1</i>	<i>YOR330C</i>	1.00	no	no	no	no	no
<i>MRP21</i>	<i>YBL090W</i>	1.00	no	no	no	no	no
<i>MRPL17</i>	<i>YNL252C</i>	0.75	no	no	no	no	no
<i>MRPL23</i>	<i>YOR150W</i>	1.00	no	no	no	no	no
<i>MRPL27</i>	<i>YBR282W</i>	1.00	no	no	no	no	no
<i>MRPL37</i>	<i>YBR268W</i>	0.75	no	no	no	no	no
<i>MRPS16</i>	<i>YPL013C</i>	1.00	no	no	no	no	no
<i>MSY1</i>	<i>YPL097W</i>	1.00	no	no	no	no	no
<i>OCT1</i>	<i>YKL134C</i>	1.00	no	no	no	no	no
<i>RML2</i>	<i>YEL050C</i>	0.75	no	no	no	no	no
<i>RRG8</i>	<i>YPR116W</i>	1.00	no	no	no	no	no
<i>RSM18</i>	<i>YER050C</i>	1.00	no	no	no	no	no
<i>RSM19</i>	<i>YNR037C</i>	1.00	no	no	no	no	no
<i>RSM23</i>	<i>YGL129C</i>	1.00	no	no	no	no	no
<i>RSM27</i>	<i>YGR215W</i>	1.00	no	no	no	no	no
<i>SWS2</i>	<i>YNL081C</i>	1.00	no	no	no	no	no
Lack of mtDNA reported in four screens							
<i>AEP3</i>	<i>YPL005W</i>	0.75	no		no	no	no
<i>CCM1</i>	<i>YGR150C</i>	1.00		no	no	no	no
<i>MEF2</i>	<i>YJL102W</i>	0.75		no	no	no	no
<i>MET7</i>	<i>YOR241W</i>	1.00		no	no	no	no
<i>MGM1</i>	<i>YOR211C</i>	1.00	no	no		no	no
<i>MRF1</i>	<i>YGL143C</i>	1.00		no	no	no	no
<i>MRP20</i>	<i>YDR405W</i>	0.75	no		no	no	no
<i>MRP51</i>	<i>YPL118W</i>	0.75	no		no	no	no
<i>MRP7</i>	<i>YNL005C</i>	1.00	no		no	no	no
<i>MRPL11</i>	<i>YDL202W</i>	0.75	no		no	no	no
<i>MRPL16</i>	<i>YBL038W</i>	0.75	no		no	no	no
<i>MRPL32</i>	<i>YCR003W</i>	1.00		no	no	no	no
<i>MRPL35</i>	<i>YDR322W</i>	0.50	no		no	no	no
<i>MRPL38</i>	<i>YKL170W</i>	1.00		no	no	no	no
<i>MRPL40</i>	<i>YPL173W</i>	1.00		no	no	no	no
<i>MRPL49</i>	<i>YJL096W</i>	1.00	no	no		no	no
<i>MRPL51</i>	<i>YPR100W</i>	0.75	no		no	no	no
<i>MRPL6</i>	<i>YHR147C</i>	1.00		no	no	no	no
<i>MRPL8</i>	<i>YJL063C</i>	0.75		no	no	no	no
<i>MRPS12</i>	<i>YNR036C</i>	0.75	no		no	no	no
<i>MRPS8</i>	<i>YMR158W</i>	0.75		no	no	no	no
<i>MSE1</i>	<i>YOL033W</i>	1.00		no	no	no	no
<i>MSH1</i>	<i>YHR120W</i>	1.00		no	no	no	no
<i>MSK1</i>	<i>YNL073W</i>	1.00	no	no	no	no	
<i>MSW1</i>	<i>YDR268W</i>	0.75	no		no	no	no

Standard name	ORF	<i>pet</i> score	wt mtDNA present				
			this study	ref. [18]	ref. [71]	ref. [72]	ref. [73]
<i>MTF1</i>	<i>YMR228W</i>	1.00	no	no		no	no
<i>MTG2</i>	<i>YHR168W</i>	0.75		no	no	no	no
<i>NAM2</i>	<i>YLR382C</i>	0.75		no	no	no	no
<i>PET100</i>	<i>YDR079W</i>	1.00		no	no	no	no
<i>PET123</i>	<i>YOR158W</i>	1.00	no	no		no	no
<i>PPA2</i>	<i>YMR267W</i>	1.00	no	no		no	no
<i>RSM22</i>	<i>YKL155C</i>	1.00		no	no	no	no
<i>RSM24</i>	<i>YDR175C</i>	1.00	no	no		no	no
<i>SLM5</i>	<i>YCR024C</i>	1.00		no	no	no	no
<i>SOV1</i>	<i>YMR066W</i>	0.75	no		no	no	no
<i>YTA12</i>	<i>YMR089C</i>	1.00		no	no	no	no
Lack of mtDNA reported in three screens							
<i>ABF2</i>	<i>YMR072W</i>	1.00			no	no	no
<i>AFG3</i>	<i>YER017C</i>	0.75			no	no	no
<i>ATP15</i>	<i>YPL271W</i>	1.00		no		no	no
<i>ATP22</i>	<i>YDR350C</i>	0.75	no	no		no	
<i>ATP25</i>	<i>YMR098C</i>	1.00		no		no	no
<i>ATP4</i>	<i>YPL078C</i>	1.00		no	no	no	
<i>ATP5</i>	<i>YDR298C</i>	1.00			no	no	no
<i>DOC1</i>	<i>YGL240W</i>	0.75		no		no	no
<i>DSS1</i>	<i>YMR287C</i>	0.75		no		no	no
<i>EUG1</i>	<i>YDR518W</i>	0.50			no	no	no
<i>GEP5</i>	<i>YLR091W</i>	0.75		no	no	no	
<i>GTF1</i>	<i>YGR102C</i>	0.50		no	no		no
<i>HER2</i>	<i>YMR293C</i>	1.00		no		no	no
<i>HMI1</i>	<i>YOL095C</i>	0.75		no	no		no
<i>IMG1</i>	<i>YCR046C</i>	1.00	no			no	no
<i>IMG2</i>	<i>YCR071C</i>	1.00		no		no	no
<i>ISA2</i>	<i>YPR067W</i>	1.00		no	no	no	
<i>MEF1</i>	<i>YLR069C</i>	0.75		no	no	no	
<i>MHR1</i>	<i>YDR296W</i>	0.75		no		no	no
<i>MRH4</i>	<i>YGL064C</i>	0.25			no	no	no
<i>MRM1</i>	<i>YOR201C</i>	0.50			no	no	no
<i>MRP1</i>	<i>YDR347W</i>	0.75		no		no	no
<i>MRP10</i>	<i>YDL045W-A</i>	0.75		no		no	no
<i>MRP17</i>	<i>YKL003C</i>	1.00	no	no		no	
<i>MRPL10</i>	<i>YNL284C</i>	0.75	no			no	no
<i>MRPL13</i>	<i>YKR006C</i>	1.00		no		no	no
<i>MRPL20</i>	<i>YKR085C</i>	0.75	no		no		no
<i>MRPL22</i>	<i>YNL177C</i>	1.00		no		no	no
<i>MRPL24</i>	<i>YMR193W</i>	0.75		no	no		no
<i>MRPL25</i>	<i>YGR076C</i>	0.75		no	no		no
<i>MRPL7</i>	<i>YDR237W</i>	0.75			no	no	no
<i>MRPL9</i>	<i>YGR220C</i>	1.00			no	no	no
<i>MRPS28</i>	<i>YDR337W</i>	0.75		no	no		no
<i>MRPS35</i>	<i>YGR165W</i>	0.50	no			no	no
<i>MRPS5</i>	<i>YBR251W</i>	0.75		no	no	no	
<i>MSD1</i>	<i>YPL104W</i>	0.75		no	no		no

Standard name	ORF	<i>pet</i> score	wt mtDNA present				
			this study	ref. [18]	ref. [71]	ref. [72]	ref. [73]
<i>MSF1</i>	<i>YPR047W</i>	0.75			no	no	no
<i>MSR1</i>	<i>YHR091C</i>	1.00		no	no	no	
<i>MSS116</i>	<i>YDR194C</i>	0.75		no		no	no
<i>MST1</i>	<i>YKL194C</i>	1.00	no	no		no	
<i>MTF2</i>	<i>YDL044C</i>	0.75		no		no	no
<i>MTM1</i>	<i>YGR257C</i>	0.50			no	no	no
<i>PCP1</i>	<i>YGR101W</i>	0.50	no			no	no
<i>PET130</i>	<i>YJL023C</i>	0.50	no			no	no
<i>RIM1</i>	<i>YCR028C-A</i>	1.00	no			no	no
<i>RPO41</i>	<i>YFL036W</i>	0.75	no		no	no	
<i>RRF1</i>	<i>YHR038W</i>	0.75		no	no		no
<i>RRG1</i>	<i>YDR065W</i>	1.00		no	no	no	
<i>RRG7</i>	<i>YOR305W</i>	1.00			no	no	no
<i>RSM7</i>	<i>YJR113C</i>	1.00			no	no	no
<i>SLS1</i>	<i>YLR139C</i>	1.00		no		no	no
<i>SSQ1</i>	<i>YLR369W</i>	0.75		no	no	no	
<i>SUV3</i>	<i>YPL029W</i>	0.75			no	no	no
<i>TUF1</i>	<i>YOR187W</i>	1.00		no	no	no	
<i>YDR114C</i>	<i>YDR114C</i>	1.00		no	no	no	
<i>YKL169C</i>	<i>YKL169C</i>	1.00		no		no	no
<i>YNL184C</i>	<i>YNL184C</i>	1.00		no		no	no
<i>YOR199W</i>	<i>YOR199W</i>	0.50			no	no	no
Lack of mtDNA reported in two screens							
<i>AEP1</i>	<i>YMR064W</i>	1.00		no		no	
<i>AEP2</i>	<i>YMR282C</i>	0.75		no			no
<i>ATP14</i>	<i>YLR295C</i>	0.50		no	no		
<i>ATP17</i>	<i>YDR377W</i>	1.00		no		no	
<i>ATP7</i>	<i>YKL016C</i>	1.00				no	no
<i>ERG5</i>	<i>YMR015C</i>	0.25		no			no
<i>EXO5</i>	<i>YBR163W</i>	0.50				no	no
<i>GEP3</i>	<i>YOR205C</i>	0.75			no	no	
<i>GGC1</i>	<i>YDL198C</i>	0.75				no	no
<i>GIN4</i>	<i>YDR507C</i>	0.50				no	no
<i>GLO3</i>	<i>YER122C</i>	0.50				no	no
<i>GRX5</i>	<i>YPL059W</i>	0.75			no	no	
<i>HEM14</i>	<i>YER014W</i>	0.67			no	no	
<i>HPR1</i>	<i>YDR138W</i>	0.25	no				no
<i>IBA57</i>	<i>YJR122W</i>	1.00			no	no	
<i>IRC19</i>	<i>YLL033W</i>	0.75		no			no
<i>ISA1</i>	<i>YLL027W</i>	1.00		no		no	
<i>ISM1</i>	<i>YPL040C</i>	0.25			no		no
<i>KAP123</i>	<i>YER110C</i>	0.50			no	no	
<i>LCB5</i>	<i>YLR260W</i>	0.75			no	no	
<i>MDM12</i>	<i>YOL009C</i>	0.50		no			no
<i>MMM1</i>	<i>YLL006W</i>	0.50				no	no
<i>MRP2</i>	<i>YPR166C</i>	0.50			no		no
<i>MRP4</i>	<i>YHL004W</i>	1.00	no			no	
<i>MRPL15</i>	<i>YLR312W-A</i>	1.00		no		no	

Standard name	ORF	<i>pet</i> score	wt mtDNA present					
			this study	ref. [18]	ref. [71]	ref. [72]	ref. [73]	
<i>MRPL31</i>	<i>YKL138C</i>	0.75		no	no			
<i>MRPL33</i>	<i>YMR286W</i>	1.00				no	no	
<i>MRPL4</i>	<i>YLR439W</i>	0.75		no			no	
<i>MRPS17</i>	<i>YMR188C</i>	0.50		no			no	
<i>MRX14</i>	<i>YDR115W</i>	0.75		no	no			
<i>MSM1</i>	<i>YGR171C</i>	0.75		no			no	
<i>MTG1</i>	<i>YMR097C</i>	0.75			no	no		
<i>OXA1</i>	<i>YER154W</i>	1.00		no		no		
<i>PET112</i>	<i>YBL080C</i>	0.75		no			no	
<i>PET309</i>	<i>YLR067C</i>	1.00		no			no	
<i>PHO85</i>	<i>YPL031C</i>	0.50				no	no	
<i>PIF1</i>	<i>YML061C</i>	0.75		no			no	
<i>PPT2</i>	<i>YPL148C</i>	0.75		no	no			
<i>QRI5</i>	<i>YLR204W</i>	0.50			no	no		
<i>RMD9</i>	<i>YGL107C</i>	0.75				no	no	
<i>RNR4</i>	<i>YGR180C</i>	1.00			no	no		
<i>RPL1B</i>	<i>YGL135W</i>	0.75			no		no	
<i>RRG9</i>	<i>YNL213C</i>	1.00		no		no		
<i>RTC6</i>	<i>YPL183W-A</i>	0.50				no	no	
<i>UGO1</i>	<i>YDR470C</i>	0.25	no			no		
<i>VPS33</i>	<i>YLR396C</i>	0.75	no			no		
<i>VPS45</i>	<i>YGL095C</i>	0.50			no	no		
<i>YGR219W</i>	<i>YGR219W</i>	0.75				no	no	
<i>YOR200W</i>	<i>YOR200W</i>	1.00				no	no	
<i>YPR099C</i>	<i>YPR099C</i>	0.75				no	no	
Lack of mtDNA reported in one screen								
<i>ACO1</i>	<i>YLR304C</i>	0.75		no				
<i>ADD37</i>	<i>YMR184W</i>	0.50				no		
<i>AGP2</i>	<i>YBR132C</i>	0.00				no		
<i>AIM10</i>	<i>YER087W</i>	1.00				no		
<i>AIM22</i>	<i>YJL046W</i>	1.00					no	
<i>ANP1</i>	<i>YEL036C</i>	0.25				no		
<i>APN1</i>	<i>YKL114C</i>	0.25		no				
<i>APN2</i>	<i>YBL019W</i>	0.25		no				
<i>ATG34</i>	<i>YOL083W</i>	0.25		no				
<i>ATP10</i>	<i>YLR393W</i>	0.75					no	
<i>ATP3</i>	<i>YBR039W</i>	1.00		no				
<i>AVL9</i>	<i>YLR114C</i>	0.50				no		
<i>BOL2</i>	<i>YGL220W</i>	0.50				no		
<i>BRE1</i>	<i>YDL074C</i>	0.25					no	
<i>BRE2</i>	<i>YLR015W</i>	0.00					no	
<i>BUD16</i>	<i>YEL029C</i>	0.25			no			
<i>CBP2</i>	<i>YHL038C</i>	1.00		no				
<i>CBS1</i>	<i>YDL069C</i>	0.75					no	
<i>CEM1</i>	<i>YER061C</i>	1.00					no	
<i>CLC1</i>	<i>YGR167W</i>	0.50		no				
<i>COX5A</i>	<i>YNL052W</i>	1.00	no					
<i>CYC3</i>	<i>YAL039C</i>	0.75		no				

Standard name	ORF	<i>pet</i> score	wt mtDNA present				
			this study	ref. [18]	ref. [71]	ref. [72]	ref. [73]
<i>DCS1</i>	<i>YLR270W</i>	0.50				no	
<i>DID4</i>	<i>YKL002W</i>	0.75					no
<i>ELO3</i>	<i>YLR372W</i>	0.00					no
<i>FAB1</i>	<i>YFR019W</i>	0.25					no
<i>GDH1</i>	<i>YOR375C</i>	0.25		no			
<i>GEM1</i>	<i>YAL048C</i>	0.50				no	
<i>GET1</i>	<i>YGL020C</i>	0.00					no
<i>HAP3</i>	<i>YBL021C</i>	0.75		no			
<i>HDA2</i>	<i>YDR295C</i>	0.25				no	
<i>HFI1</i>	<i>YPL254W</i>	0.50		no			
<i>HSP31</i>	<i>YDR533C</i>	0.25					no
<i>HTB2</i>	<i>YBL002W</i>	0.50				no	
<i>HTD2</i>	<i>YHR067W</i>	1.00					no
<i>IFM1</i>	<i>YOL023W</i>	0.75					no
<i>INH1</i>	<i>YDL181W</i>	0.33				no	
<i>IRC3</i>	<i>YDR332W</i>	0.50					no
<i>LCL1</i>	<i>YPL056C</i>	0.00	no				
<i>LDB17</i>	<i>YDL146W</i>	0.50				no	
<i>MAC1</i>	<i>YMR021C</i>	0.75					no
<i>MBP1</i>	<i>YDL056W</i>	0.50					no
<i>MDM10</i>	<i>YAL010C</i>	0.50					no
<i>MDM38</i>	<i>YOL027C</i>	0.25					no
<i>MEC3</i>	<i>YLR288C</i>	0.25				no	
<i>MOT2</i>	<i>YER068W</i>	0.25					no
<i>MRP49</i>	<i>YKL167C</i>	0.25					no
<i>MRPL19</i>	<i>YNL185C</i>	1.00		no			
<i>MRPL28</i>	<i>YDR462W</i>	0.25					no
<i>MRPL36</i>	<i>YBR122C</i>	1.00				no	
<i>MRPS9</i>	<i>YBR146W</i>	0.25		no			
<i>MRX1</i>	<i>YER077C</i>	0.25					no
<i>NAT1</i>	<i>YDL040C</i>	0.25				no	
<i>NRP1</i>	<i>YDL167C</i>	0.50				no	
<i>PAF1</i>	<i>YBR279W</i>	0.00					no
<i>PEP3</i>	<i>YLR148W</i>	0.50				no	
<i>PIM1</i>	<i>YBL022C</i>	0.50				no	
<i>PKH2</i>	<i>YOL100W</i>	0.50				no	
<i>PRO1</i>	<i>YDR300C</i>	0.25				no	
<i>PTC1</i>	<i>YDL006W</i>	0.00					no
<i>QRI7</i>	<i>YDL104C</i>	0.25			no		
<i>RNR1</i>	<i>YER070W</i>	0.50		no			
<i>RPB4</i>	<i>YJL140W</i>	0.00				no	
<i>RPH1</i>	<i>YER169W</i>	0.50				no	
<i>RPP2A</i>	<i>YOL039W</i>	0.00	no				
<i>RSM25</i>	<i>YIL093C</i>	0.25					no
<i>RSM26</i>	<i>YJR101W</i>	0.00				no	
<i>SHU2</i>	<i>YDR078C</i>	0.50				no	
<i>SLA1</i>	<i>YBL007C</i>	0.25					no
<i>SOD2</i>	<i>YHR008C</i>	0.25					no

Standard name	ORF	<i>pet</i> score	wt mtDNA present				
			this study	ref. [18]	ref. [71]	ref. [72]	ref. [73]
<i>SPS1</i>	<i>YDR523C</i>	0.50				no	
<i>SRF1</i>	<i>YDL133W</i>	0.25		no			
<i>SSA4</i>	<i>YER103W</i>	0.50				no	
<i>SUT1</i>	<i>YGL162W</i>	0.00					no
<i>SYO1</i>	<i>YDL063C</i>	0.50				no	
<i>TDA5</i>	<i>YLR426W</i>	0.00					no
<i>THP1</i>	<i>YOL072W</i>	0.00					no
<i>TPM1</i>	<i>YNL079C</i>	0.00					no
<i>TVP18</i>	<i>YMR071C</i>	0.50				no	
<i>UAF30</i>	<i>YOR295W</i>	0.25	no				
<i>UFO1</i>	<i>YML088W</i>	0.50				no	
<i>VID22</i>	<i>YLR373C</i>	0.00					no
<i>VPS41</i>	<i>YDR080W</i>	0.00					no
<i>XYL2</i>	<i>YLR070C</i>	0.25		no			
<i>YBL012C</i>	<i>YBL012C</i>	0.25				no	
<i>YBL044W</i>	<i>YBL044W</i>	0.50				no	
<i>YCP4</i>	<i>YCR004C</i>	0.50				no	
<i>YDL032W</i>	<i>YDL032W</i>	0.50					no
<i>YDL057W</i>	<i>YDL057W</i>	0.33				no	
<i>YDL062W</i>	<i>YDL062W</i>	0.25				no	
<i>YDL129W</i>	<i>YDL129W</i>	0.25		no			
<i>YDR042C</i>	<i>YDR042C</i>	0.50				no	
<i>YDR521W</i>	<i>YDR521W</i>	0.25				no	
<i>YGL218W</i>	<i>YGL218W</i>	0.75					no
<i>YGP1</i>	<i>YNL160W</i>	0.50				no	
<i>YHR175W-A</i>	<i>YHR175W-A</i>	0.33				no	
<i>YIL014C-A</i>	<i>YIL014C-A</i>	0.25					no
<i>YJL022W</i>	<i>YJL022W</i>	0.25					no
<i>YJL027C</i>	<i>YJL027C</i>	0.25				no	
<i>YJR114W</i>	<i>YJR114W</i>	1.00				no	
<i>YLR149C</i>	<i>YLR149C</i>	0.25					no
<i>YMC1</i>	<i>YPR058W</i>	0.00					no
<i>YMR084W</i>	<i>YMR084W</i>	0.50				no	
<i>YNL170W</i>	<i>YNL170W</i>	0.75				no	