

## SUPPORTING INFORMATION

<b>Table S1.</b>	<b>Yeast Strains</b>		
<b>Strains</b>	<b>Genotype</b>	<b>Derived from Parent Strain</b>	<b>Reference</b>
SDBY1420	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 set1Δ::HphMX</i>	(81)	(81)
SDBY1500	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 set3Δ::KanMX</i>	BY4741	This Study
SDBY1501	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 set4Δ::KanMX</i>	BY4741	This Study
SDBY1502	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 set4Δ::HphMX set3Δ::KanMX</i>	BY4741	This Study
SDBY1503	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 set1Δ::HphMX set4Δ::KanMX</i>	BY4741	This Study
SDBY1504	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 SET4::loxP-KanMX- P<sub>PYK1</sub>-loxP-3xFLAG-SET4</i>	BY4741	This Study
SDBY1505	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 SET3::loxP-KanMX- P<sub>PYK1</sub>-loxP-3xFLAG-SET3</i>	BY4741	This Study
SDBY1506	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 SET4::loxP-3xFLAG-SET4</i>	BY4741	This Study
SDBY1507	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 SET3::loxP-3xFLAG-SET3</i>	BY4741	This Study
SDBY1508	<i>MATa ura3Δ his3Δ200 leu2Δ0 lys2-128δ HAP1 set4Δ::HphMX</i>	FY2609	This Study
SDBY1509	<i>MATa ura3Δ his3Δ200 leu2Δ0 lys2-128δ HAP1 upc2Δ::KanMX</i>	FY2609	This Study
SDBY1510	<i>MATa ura3Δ his3Δ200 leu2Δ0 lys2-128δ HAP1 set4Δ::HphMX upc2Δ::KanMX</i>	FY2609	This Study
SDBY1511	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 upc2Δ::KanMX</i>	BY4741	This Study
SDBY1512	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 upc2Δ::KanMX ecm22Δ::LEU2</i>	BY4741	This Study
SDBY1513	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 SET4::loxP-3xFLAG-SET4 upc2Δ::KanMX</i>	BY4741	This Study
SDBY1514	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 SET4::loxP-3xFLAG-SET4 ecm22Δ::LEU2</i>	BY4741	This Study
SDBY1515	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 SET4::loxP-3xFLAG-SET4 upc2Δ::KanMX ecm22Δ::LEU2</i>	BY4741	This Study
SDBY1516	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 erg6Δ::NatMX</i>	BY4741	This Study
SDBY1517	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 erg2Δ::LEU2</i>	BY4741	This Study
SDBY1518	<i>MATa his3Δ leu2Δ0 LYS2 met15Δ0 ura3Δ0 erg3Δ::HphMX</i>	BY4741	This Study
SDBY1519	<i>MATa ura3Δ his3Δ200 leu2Δ0 lys2-128δ HAP1 SET4::loxP-3xFLAG-SET4</i>	FY2609	This Study
SDBY1520	<i>MATa ura3Δ his3Δ200 leu2Δ0 lys2-128δ SET4::loxP-3xFLAG-SET4 hap1Δ::KanMX</i>	FY2609	This Study

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SDBY1521	<i>MAT<math>\alpha</math> his3<math>\Delta</math> leu2<math>\Delta</math>0 LYS2 met15<math>\Delta</math>0 ura3<math>\Delta</math>0 SET4::loxP-3xFLAG-SET4 erg3<math>\Delta</math>::HphMX</i>	BY4741	This Study
SDBY1522	<i>MAT<math>\alpha</math> his3<math>\Delta</math> leu2<math>\Delta</math>0 LYS2 met15<math>\Delta</math>0 ura3<math>\Delta</math>0 SET4::loxP-3xFLAG-SET4 upc2<math>\Delta</math>::KanMX erg3<math>\Delta</math>::HphMX</i>	BY4741	This Study
FY2609	<i>MAT<math>\alpha</math> ura3<math>\Delta</math> his3<math>\Delta</math>200 leu2<math>\Delta</math>0 lys2-128<math>\delta</math> HAP1</i>	FY2609	(17)
FY2613	<i>MAT<math>\alpha</math> ura3<math>\Delta</math> his3<math>\Delta</math>200 leu2<math>\Delta</math>0 lys2-128<math>\delta</math> myc-HAP1</i>	FY2613	(17)
FY2611	<i>MAT<math>\alpha</math> ura3<math>\Delta</math> his3<math>\Delta</math>200 leu2<math>\Delta</math>0 lys2-128<math>\delta</math> hap1<math>\Delta</math>::KanMX</i>	FY2611	(17)
FY2673	<i>MAT<math>\alpha</math> ura3<math>\Delta</math> his3<math>\Delta</math>200 leu2<math>\Delta</math>0 lys2-128<math>\delta</math> HAP1 tup1<math>\Delta</math>::KanMX</i>	FY2609	(17)
FY2983	<i>MAT<math>\alpha</math> ura3<math>\Delta</math> his3<math>\Delta</math>200 leu2<math>\Delta</math>0 lys2-128<math>\delta</math> HAP1 upc2-1</i>	FY2609	Kindly provided by Fred Winston
BY4741	<i>MAT<math>\alpha</math> his3<math>\Delta</math> leu2<math>\Delta</math>0 LYS2 met15<math>\Delta</math>0 ura3<math>\Delta</math>0</i>	BY4741	Open Biosystems
ysp2 $\Delta$	<i>MAT<math>\alpha</math> his3<math>\Delta</math> leu2<math>\Delta</math>0 LYS2 met15<math>\Delta</math>0 ura3<math>\Delta</math>0 ysp2<math>\Delta</math>::KanMX</i>	BY4741	Open Biosystems
erg5 $\Delta$	<i>MAT<math>\alpha</math> his3<math>\Delta</math> leu2<math>\Delta</math>0 LYS2 met15<math>\Delta</math>0 ura3<math>\Delta</math>0 erg5<math>\Delta</math>::KanMX</i>	BY4741	Open Biosystems
erg4 $\Delta$	<i>MAT<math>\alpha</math> his3<math>\Delta</math> leu2<math>\Delta</math>0 LYS2 met15<math>\Delta</math>0 ura3<math>\Delta</math>0 erg4<math>\Delta</math>::KanMX</i>	BY4741	Open Biosystems
ecm22 $\Delta$	<i>MAT<math>\alpha</math> his3<math>\Delta</math> leu2<math>\Delta</math>0 LYS2 met15<math>\Delta</math>0 ura3<math>\Delta</math>0 ecm22<math>\Delta</math>::KanMX</i>	BY4741	Open Biosystems

**Note:** The BY4741 strain contains a *hap1-Ty1* gene fusion. The FY2609 strain contains a full length *HAP1* sequence.

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**Table S2. Plasmids**

Plasmid	Inserted Gene	Promoter	Vector	Source
pRS416	None		pRS416	This Study
pRS416	<i>SET4-3XFLAG</i>	<i>SET4</i>	pRS416	This Study

**Table S3. Primers for qRT-PCR**

Primer Name	Sequence
<i>ACT1-001F</i>	TGGATTCCGGTGATGGTGT
<i>ACT1-002R</i>	TCAAAATGGCGTGAGGTAGAGA
<i>18S-001F</i>	TGGTGCATGGCCGTTCTT
<i>18S-002R</i>	GGTCTCGTCGTTATCGCAATT
<i>SET1-001F</i>	GCAGCCTTAGTGCCGTTAGA
<i>SET1-002R</i>	CTTGAAGCCCAGTAAAGCAA
<i>SET2-001F</i>	ACGTCGCAGCCAGCAAA
<i>SET2-002R</i>	TCTCCCAGCCTGGAGGTAATC
<i>SET3-001F</i>	TCGGGACAGAGCATCGAGTAC
<i>SET3-002R</i>	TGTCCTGATCCGTTAAAAGC
<i>SET4-001F</i>	CGTCAGCAGTGCAGCTTCAG
<i>SET4-002R</i>	TGTATTGAATGTCCTTATCGGCATA
<i>SET5-001F</i>	ACGGCCAGGTATATCATTGGAT
<i>SET5-002R</i>	TTGCTCAATATAGGCGTTGGTT
<i>SET6-001F</i>	GGATACCGCGCATCAACAA
<i>SET6-002R</i>	CGCAAGTGGGTGGTAATTGATT
<i>ERG11-001F</i>	CACGAATTGTCTTCAACGCTAA
<i>ERG11-002R</i>	AGTCAAATGAGCGTAAGCAGCTT
<i>ERG3-001F</i>	GCTCTGCACAAGCCTCATCA
<i>ERG3-002R</i>	GGAAAGAATGAGATGCGAAAGG
<i>UPC2-001F</i>	CGGTAGCGTGGAGTCTGATT
<i>UPC2-002R</i>	CGGTGTCTGCTCCTTCTTGAT

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**Table S4**

**Probe sets for ChIP Analysis**

<b>Probe Name</b>	<b>Sequence 5'-3'</b>
<i>ERG11 Promoter -600</i>	/56-FAM/CCTTTATTC/ZEN/CCGACTAAGCCGTACGA/3IABkFQ TCTGTACGAAAATGAGGCCAG GCCTTAAGATTGTCCAACCC
<i>ERG11 5'</i>	/56-FAM/TGGGCCAAT/ZEN/GGTAAAGCCAAGAAATG/3IABkFQ TTGGAGAGGCATTGGAATACG TCCTTCTCAAAGAACATAGTAATTGCC
<i>ERG11 3'</i>	/56-FAM/ACCGTTCCA/ZEN/CCTCCTGACTTACATCT/3IABkFQ TTTGTTCGGATTCTCTTTCCC AAATGGCATTACCCAGAGGG
<i>ERG3 Promoter -358</i>	/56-FAM/ATTCGGTC/ZEN/GTTTAGTTGCGCCC/3IABkFQ TGTCCCTTGCATCGCTG CTCGTATACACCCGGTTG
<i>ERG3 5'</i>	/56-FAM/TGTACGCTA/ZEN/AAGTTCTGCCCGCT/3IABkFQ AGAAGTCGCTGACCATTATGTC CAATTCTGCCACTTGACAGG
<i>ERG3 3'</i>	/56-FAM/CCTGCCACA/ZEN/CGGTTCACCATCTAT/3IABkFQ ACCTATCAAACAATCCTGCCG CAATGAGTCATCTGGTCTACGG
<i>ARS504</i>	/56-FAM/TTGGTCTTC/ZEN/CCTACGCATTCCCC/3IABkFQ/ GCCGTTCAATCTATCGTCATG ATCCAGCTGACTCATTCTGT
<i>CTT1 Promoter -288</i>	/56-FAM/AATAACCCT/ZEN/TCTGGATGGCGACG/3IABkFQ/ AAGCGGTGAAATTGCGTATTG TTCAGCATACGAATAGTACTGGC
<i>SPS100 Promoter -488</i>	/56-FAM/CAGACGCTT/ZEN/CCCTGAAAATGCC/3IABkFQ/ GCGTCATTGTCTCGCTTAAG TGTCACTCGGCTTAGCTTC
<i>PMA1 Promoter</i>	/56-FAM/CCGCTTATG/ZEN/CTCCCCTCCATTAGTT/3IABkFQ/ TGACGAAACGTGGTCGATG AAATTAGATGTTAGACGATAATGATAGGAC

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**Table S5. Data analysis**

**Figure 2A: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>SET4</i>	WT	DMSO	1.024	0.232	0.095	N.S.
<i>SET4</i>	WT	(+) ketoconazole	14.292	3.801	1.552	P<0.0001

**Figure 2B: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>SET1</i>	WT	DMSO	0.913	0.235	0.117	N.S.
<i>SET1</i>	WT	(+) ketoconazole	0.819	0.134	0.067	N.S.
<i>SET2</i>	WT	DMSO	1.164	0.160	0.080	N.S.
<i>SET2</i>	WT	(+) ketoconazole	0.780	0.221	0.110	P<0.05
<i>SET3</i>	WT	DMSO	1.019	0.077	0.039	N.S.
<i>SET3</i>	WT	(+) ketoconazole	0.834	0.220	0.110	N.S.
<i>SET4</i>	WT	DMSO	1.030	0.118	0.059	N.S.
<i>SET4</i>	WT	(+) ketoconazole	8.654	0.781	0.391	P<0.0001
<i>SET5</i>	WT	DMSO	1.098	0.123	0.062	N.S.
<i>SET5</i>	WT	(+) ketoconazole	0.832	0.241	0.120	N.S.
<i>SET6</i>	WT	DMSO	1.099	0.131	0.066	N.S.
<i>SET6</i>	WT	(+) ketoconazole	0.773	0.305	0.153	N.S.

**Figure 2C: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>SET4</i>	WT	DMSO	1.003	0.097	0.056	N.S.
<i>SET4</i>	WT	(+) keto 3 hrs	8.949	4.697	2.712	P<0.05
<i>SET4</i>	WT	(+) keto 6 hrs	19.513	5.948	3.434	P<0.01
<i>SET4</i>	WT	(+) keto 9 hrs	21.053	6.387	3.688	P<0.01
<i>SET4</i>	WT	(+) keto 12 hrs	20.278	7.419	4.283	P<0.01

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**Figure 2E-H: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG11</i>	WT	DMSO	1.032	0.328	0.189	N.S.
<i>ERG11</i>	<i>set4Δ</i>	DMSO	0.980	0.238	0.137	N.S.
<i>ERG11</i>	WT	(+) ketoconazole	4.703	1.489	0.860	N.S.
<i>ERG11</i>	<i>set4Δ</i>	(+) ketoconazole	4.993	1.367	0.789	N.S.
<i>ERG3</i>	WT	DMSO	1.004	0.103	0.060	N.S.
<i>ERG3</i>	<i>set4Δ</i>	DMSO	0.972	0.233	0.134	N.S.
<i>ERG3</i>	WT	(+) ketoconazole	7.779	1.139	0.658	N.S.
<i>ERG3</i>	<i>set4Δ</i>	(+) ketoconazole	7.264	0.614	0.354	N.S.
<i>PDR5</i>	WT	DMSO	1.098	0.612	0.353	N.S.
<i>PDR5</i>	<i>set4Δ</i>	DMSO	1.097	0.337	0.195	N.S.
<i>PDR5</i>	WT	(+) ketoconazole	2.139	0.568	0.328	N.S.
<i>PDR5</i>	<i>set4Δ</i>	(+) ketoconazole	1.998	1.013	0.585	N.S.
<i>PDR11</i>	WT	DMSO	1.013	0.190	0.110	N.S.
<i>PDR11</i>	<i>set4Δ</i>	DMSO	0.798	0.157	0.090	N.S.
<i>PDR11</i>	WT	(+) ketoconazole	3.279	1.261	0.728	N.S.
<i>PDR11</i>	<i>set4Δ</i>	(+) ketoconazole	3.505	1.195	0.690	N.S.

**Figure 3A: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>SET4</i>	WT	aerobic	1.021	0.283	0.141	N.S.
<i>SET4</i>	WT	hypoxia	230.092	42.206	21.103	P<0.0001

**Figure 3B: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>SET1</i>	WT	aerobic	1.001	0.049	0.028	N.S.
<i>SET1</i>	WT	hypoxia	1.108	0.071	0.041	N.S.
<i>SET2</i>	WT	aerobic	1.136	0.736	0.425	N.S.
<i>SET2</i>	WT	hypoxia	0.666	0.067	0.039	N.S.
<i>SET3</i>	WT	aerobic	1.016	0.214	0.124	N.S.
<i>SET3</i>	WT	hypoxia	0.975	0.520	0.300	N.S.
<i>SET4</i>	WT	aerobic	1.009	0.170	0.098	N.S.
<i>SET4</i>	WT	hypoxia	225.578	13.338	7.701	P<0.0001
<i>SET5</i>	WT	aerobic	1.020	0.248	0.143	N.S.
<i>SET5</i>	WT	hypoxia	1.102	0.416	0.240	N.S.
<i>SET6</i>	WT	aerobic	1.014	0.205	0.119	N.S.
<i>SET6</i>	WT	hypoxia	1.956	0.862	0.498	N.S.

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**Figure 5A: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG11</i>	WT	aerobic	1.028	0.275	0.137	N.S.
<i>ERG11</i>	WT	hypoxia 3 hrs	1.154	0.285	0.142	N.S.
<i>ERG11</i>	WT	hypoxia 6 hrs	0.375	0.128	0.064	P<0.05
<i>ERG11</i>	WT	hypoxia 9 hrs	0.172	0.084	0.042	P<0.01

**Figure 5B: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG3</i>	WT	aerobic	1.025	0.258	0.129	N.S.
<i>ERG3</i>	WT	hypoxia 3 hrs	0.754	0.231	0.116	N.S.
<i>ERG3</i>	WT	hypoxia 6 hrs	0.211	0.102	0.051	P<0.01
<i>ERG3</i>	WT	hypoxia 9 hrs	0.094	0.047	0.024	P<0.005

**Figure 5C: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG11</i>	<i>set4Δ</i>	aerobic	1.001	0.295	0.147	N.S.
<i>ERG11</i>	<i>set4Δ</i>	hypoxia 3 hrs	0.938	0.262	0.131	N.S.
<i>ERG11</i>	<i>set4Δ</i>	hypoxia 6 hrs	3.383	0.841	0.421	P<0.005
<i>ERG11</i>	<i>set4Δ</i>	hypoxia 9 hrs	4.409	1.401	0.701	P<0.005

**Figure 5D: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG3</i>	<i>set4Δ</i>	aerobic	0.946	0.182	0.091	N.S.
<i>ERG3</i>	<i>set4Δ</i>	hypoxia 3 hrs	1.226	0.324	0.162	N.S.
<i>ERG3</i>	<i>set4Δ</i>	hypoxia 6 hrs	4.394	0.947	0.473	P<0.005
<i>ERG3</i>	<i>set4Δ</i>	hypoxia 9 hrs	6.017	1.528	0.764	P<0.005

**Figure 5E: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG11</i>	WT	hypoxia	1.003	0.090	0.052	N.S.
<i>ERG11</i>	<i>set4Δ</i>	hypoxia	4.674	0.946	0.546	P<0.005
<i>ERG11</i>	<i>upc2Δ</i>	hypoxia	0.546	0.147	0.085	P<0.05
<i>ERG11</i>	<i>set4Δupc2Δ</i>	hypoxia	1.052	0.267	0.154	N.S.

**Figure 5F: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG11</i>	WT	hypoxia	1.012	0.184	0.107	N.S.
<i>ERG11</i>	<i>set4Δ</i>	hypoxia	3.399	0.394	0.227	P<0.005
<i>ERG11</i>	<i>upc2Δ</i>	hypoxia	0.450	0.155	0.089	P<0.05
<i>ERG11</i>	<i>set4Δupc2Δ</i>	hypoxia	1.049	0.116	0.067	N.S.

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**Figure 5I: ChIP**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG11</i>						
Promoter	WT	hypoxia	0.498	0.441	0.197	N.S.
<i>ERG11</i>						
Promoter	3xFLAG-Set4	hypoxia	91.875	23.718	10.607	P<0.0001
<i>ERG11 5'</i>	WT	hypoxia	0.332	0.942	0.421	N.S.
<i>ERG11 5'</i>	3xFLAG-Set4	hypoxia	5.506	7.514	3.360	P<0.01
<i>ERG11 3'</i>	WT	hypoxia	0.520	0.407	0.182	N.S.
<i>ERG11 3'</i>	3xFLAG-Set4	hypoxia	10.180	13.409	5.997	P<0.05

**Figure 5J: ChIP**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG3</i>						
Promoter	WT	hypoxia	0.507	0.443	0.198	N.S.
<i>ERG3</i>						
Promoter	3xFLAG-Set4	hypoxia	77.861	14.409	6.444	P<0.0001
<i>ERG3 5'</i>	WT	hypoxia	0.564	0.196	0.088	N.S.
<i>ERG3 5'</i>	3xFLAG-Set4	hypoxia	13.606	11.230	5.022	P<0.01
<i>ERG3 3'</i>	WT	hypoxia	0.566	0.184	0.082	N.S.
<i>ERG3 3'</i>	3xFLAG-Set4	hypoxia	3.134	6.944	3.105	P<0.05

**Figure 6A: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG11</i>	WT	hypoxia	1.027	0.297	0.148	N.S.
<i>ERG11</i>	<i>hap1Δ</i>	hypoxia	10.667	4.100	2.050	P<0.005
<i>ERG11</i>	<i>tup1Δ</i>	hypoxia	3.703	0.661	0.330	P<0.005

**Figure 6B: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG3</i>	WT	hypoxia	1.008	0.149	0.074	N.S.
<i>ERG3</i>	<i>hap1Δ</i>	hypoxia	17.470	2.527	1.264	P<0.0001
<i>ERG3</i>	<i>tup1Δ</i>	hypoxia	6.087	1.126	0.563	P<0.0001

**Figure 6E: ChIP**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG11</i>						
Promoter	WT	hypoxia	0.018	1.070	0.618	N.S.
<i>ERG11</i>						
Promoter	Myc-Hap1	hypoxia	42.798	12.559	7.251	P<0.005
<i>ERG11 5'</i>	WT	hypoxia	0.896	2.587	1.494	N.S.
<i>ERG11 5'</i>	Myc-Hap1	hypoxia	3.490	6.877	3.970	N.S.

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**Figure 6E: ChIP**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG3</i>						
Promoter	WT	hypoxia	0.124	0.723	0.417	N.S.
<i>ERG3</i>						
Promoter	Myc-Hap1	hypoxia	55.036	14.701	8.487	P<0.005
<i>ERG3</i> 5'	WT	hypoxia	0.145	1.534	0.886	N.S.
<i>ERG3</i> 5'	Myc-Hap1	hypoxia	2.471	4.770	2.754	N.S.

**Figure 6G: ChIP**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG11</i>						
Promoter	WT	hypoxia	0.725	1.303	0.456	N.S.
<i>ERG11</i>						
Promoter	3xFLAG-Set4	hypoxia	95.111	17.865	15.875	P<0.0001
<i>ERG11</i>						
Promoter	<i>hap1</i> $\Delta$ 3xFLAG-Set4	hypoxia	7.094	5.492	2.537	
<i>ERG11</i> 5'	WT	hypoxia	1.118	2.490	0.830	N.S.
<i>ERG11</i> 5'	3xFLAG-Set4	hypoxia	26.716	22.484	8.767	
<i>ERG11</i> 5'	<i>hap1</i> $\Delta$ 3xFLAG-Set4	hypoxia	30.708	23.913	8.922	N.S.

**Figure 6H: ChIP**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG3</i>						
Promoter	WT	hypoxia	0.363	0.849	0.275	N.S.
<i>ERG3</i>						
Promoter	3xFLAG-Set4	hypoxia	89.994	21.407	16.102	P<0.0001
<i>ERG3</i>						
Promoter	<i>hap1</i> $\Delta$ 3xFLAG-Set4	hypoxia	5.359	6.810	2.255	
<i>ERG3</i> 5'	WT	hypoxia	1.231	2.812	0.930	N.S.
<i>ERG3</i> 5'	3xFLAG-Set4	hypoxia	11.192	16.989	7.038	
<i>ERG3</i> 5'	<i>hap1</i> $\Delta$ 3xFLAG-Set4	hypoxia	13.799	3.033	10.262	N.S.

**Figure 7B: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>SET4</i>	WT	hypoxia	1.022	0.247	0.124	N.S.
<i>SET4</i>	<i>upc2</i> $\Delta$	hypoxia	0.318	0.160	0.080	P<0.01
<i>SET4</i>	<i>ecm22</i> $\Delta$	hypoxia	1.139	0.327	0.164	N.S.
<i>SET4</i>	<i>upc2</i> $\Delta$ <i>ecm22</i> $\Delta$	hypoxia	0.007	0.002	0.001	P<0.005

**Figure 7D: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>SET4</i>	WT	(+) ketoconazole	1.035	0.309	0.179	N.S.
<i>SET4</i>	<i>upc2</i> $\Delta$	(+) ketoconazole	0.105	0.039	0.023	P<0.01
<i>SET4</i>	<i>ecm22</i> $\Delta$	(+) ketoconazole	1.265	0.353	0.204	N.S.
<i>SET4</i>	<i>upc2</i> $\Delta$ <i>ecm22</i> $\Delta$	(+) ketoconazole	0.032	0.011	0.007	P<0.005

## SUPPORTING INFORMATION

**Figure 8B: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>SET4</i>	WT	aerobic	1.003	0.084	0.042	N.S.
<i>SET4</i>	<i>erg6Δ</i>	aerobic	2.539	0.487	0.244	P<0.0005
<i>SET4</i>	<i>erg2Δ</i>	aerobic	1.787	0.445	0.223	P<0.05
<i>SET4</i>	<i>erg3Δ</i>	aerobic	9.430	0.950	0.475	P<0.0001
<i>SET4</i>	<i>erg5Δ</i>	aerobic	1.387	0.156	0.078	P<0.005
<i>SET4</i>	<i>erg4Δ</i>	aerobic	0.854	0.086	0.043	N.S.

**Figure 8D: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>UPC2</i>	WT	aerobic	1.032	0.297	0.149	N.S.
<i>UPC2</i>	<i>erg6Δ</i>	aerobic	3.747	0.786	0.393	P<0.005
<i>UPC2</i>	<i>erg2Δ</i>	aerobic	5.197	1.408	0.704	P<0.005
<i>UPC2</i>	<i>erg3Δ</i>	aerobic	5.686	1.184	0.592	P<0.0005
<i>UPC2</i>	<i>erg5Δ</i>	aerobic	1.627	1.070	0.535	N.S.
<i>UPC2</i>	<i>erg4Δ</i>	aerobic	0.814	0.144	0.072	N.S.

**Figure 8E: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>SET4</i>	WT	aerobic	1.017	0.220	0.127	N.S.
<i>SET4</i>	<i>erg3Δ</i>	aerobic	10.569	1.146	0.662	P<0.0001
<i>SET4</i>	<i>upc2Δ</i>	aerobic	1.392	0.094	0.054	N.S.
<i>SET4</i>	<i>erg3Δupc2Δ</i>	aerobic	1.986	0.316	0.182	N.S.

**Figure S1B: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>SET4</i>	WT	aerobic	1.162	0.124	0.062	N.S.
<i>SET4</i>	<i>PYK1p::3xFLAG-Set4</i>	aerobic	612.043	45.834	22.917	P<0.0001
<i>SET3</i>	WT	aerobic	1.139	0.126	0.063	N.S.
<i>SET3</i>	<i>PYK1p::3xFLAG-Set3</i>	aerobic	54.952	8.382	4.191	P<0.0001

**Figure S2A: qRT-PCR**

Gene	Strain	Condition	Mean RQ	Standard Deviation	Standard Error	P-Value
<i>ERG11</i>	WT	hypoxia	1.024	0.282	0.162	N.S.
<i>ERG11</i>	<i>set4Δ</i>	hypoxia	5.392	1.294	0.747	P<0.05
<i>ERG11</i>	<i>set3Δ</i>	hypoxia	0.908	0.238	0.137	N.S.
<i>ERG11</i>	<i>set4Δset3Δ</i>	hypoxia	5.954	1.210	0.698	P<0.05

## SUPPORTING INFORMATION

**Figure S2B: qRT-PCR**

<b>Gene</b>	<b>Strain</b>	<b>Condition</b>	<b>Mean RQ</b>	<b>Standard Deviation</b>	<b>Standard Error</b>	<b>P-Value</b>
<i>ERG3</i>	WT	hypoxia	1.007	0.146	0.084	N.S.
<i>ERG3</i>	<i>set4Δ</i>	hypoxia	5.837	0.658	0.380	P<0.005
<i>ERG3</i>	<i>set3Δ</i>	hypoxia	0.888	0.214	0.124	N.S.
<i>ERG3</i>	<i>set4Δset3Δ</i>	hypoxia	5.322	1.154	0.666	P<0.005