



## **2-Amino-nonyl-6-methoxyl-tetralin muriate activity against *Candida albicans* augments endogenous reactive oxygen species production – a microarray analysis study**

Rong Mei Liang, Xiao Lan Yong, Yun Ping Jiang, Yong Hong Tan, Bao Di Dai, Shi Hua Wang, Ting Ting Hu, Xi Chen, Nan Li, Zhao Hui Dong, Xiao Chun Huang, Jun Chen, Yong Bing Cao and Yuan Ying Jiang

DOI: 10.1111/j.1742-4658.2010.08021.x

**Table S1.** Selected genes that are downregulated in 10b-grown *C. albicans* SC5314 as compared with growth without treatment, determined in two independent experiments.

Primary CGDID	Genename (CandidaDB)	<i>S.cerevisiae</i> homologue name	Function	Change in fold expression	
				Ratio1 (D*)	Ratio2 (D*)
<i>Generation of precursor metabolites and energy</i>					
CAL0004810	<i>MBA1</i>	YBR185C	Aerobic respiration	0.42 ( 2.38)	0.39 (2.56)
CAL0004098	<i>GLG21</i>	YJL137C	Glycogen biosynthesis	0.28 (3.57)	0.28 (3.57)
CAL0000595	<i>GLC7</i>	YER133W	Protein described as serine/threonine phosphatase	0.41 (2.44)	0.48 (2.08)
CAL0001531	<i>PDA1</i>	YER178W	Pyruvate dehydrogenase (acetyl-transferring) activity	0.13 (7.69)	0.36 (2.78)
CAL0003535	<i>MRPS9</i>	YBR146W	Aerobic respiration	0.37 (2.70)	0.31 (3.23)
CAL0005236	<i>RHR2</i>	YIL053W	Putative glycerol 3-phosphatase	0.04 (25.00)	0.03 (33.33)
CAL0003394	<i>GSY1</i>	YFR015C	Protein described as glycogen synthase	0.12 (8.33)	0.07 (14.29)
CAL0000855	<i>ACS1</i>	YAL054C	Putative acetyl-CoA synthetase	0.13 (7.69)	0.19 (5.26)
CAL0004762	<i>NDE1</i>	YMR145C	NADH dehydrogenase activity	0.13 (7.69)	0.49 (2.05)
CAL0003526	<i>RIB3</i>	YDR487C	3,4-Dihydroxy-2-butanone 4-phosphate synthase	0.13 (7.69)	0.35 (2.86)
<i>ROS scavenge</i>					
CAL0001814	<i>GPX2</i>	YBR244W	Glutathione peroxidase activity	0.35 (2.86)	0.36 (2.78)
<i>Glycosis</i>					

CAL0003055	<i>PFK1</i>	YGR240C	Alpha subunit of phosphofructokinase (PFK)	0.02 (50.00)	0.07 (14.29)
CAL0003180	<i>PFK2</i>	YMR205C	Beta subunit of phosphofructokinase (PFK)	0.08 (12.50)	0.09 (11.11)
CAL0000198	<i>HXK2</i>	YGL253W	Protein described as hexokinase II	0.08 (12.50)	0.33 (3.03)
CAL0005977	<i>CDC19</i>	YAL038W	Putative pyruvate kinase	0.10 (10.00)	0.17 (5.88)
CAL0003619	<i>FBA1</i>	YKL060C	Putative fructose-bisphosphate aldolase	0.05 (20.00)	0.14 (7.14)
CAL0004953	<i>ENO1</i>	YGR254W	Enolase (2-phospho-D-glycerate-hydrolyase)	0.08 (12.50)	0.20 (5.00)
CAL0004861	<i>TPI1</i>	YDR050C	Triose-phosphate isomerase	0.06 (16.67)	0.14 (7.14)
CAL0001210	<i>GPM2</i>	YKL152C	Protein described as phosphoglycerate mutase	0.11 (9.09)	0.09 (11.11)
CAL0003574	<i>GPM1</i>	YKL152C	Phosphoglycerate mutase activity	0.13 (7.69)	0.27 (3.70)
CAL0002184	<i>PGI1</i>	YBR196C	Protein described as glucose-6-phosphate isomerase	0.14 (7.14)	0.27 (3.70)
<i>Fermentation</i>					
CAL0005202	<i>PDC11</i>	YLR044C	Protein similar to pyruvate decarboxylase	0.06 (16.67)	0.06 (16.67)
CAL0002252	<i>ALD5</i>	YER073W	Protein described as an aldehyde dehydrogenase	0.19 (5.26)	0.38 (2.63)
CAL0003176	<i>ADH1</i>	YMR083W	Alcohol dehydrogenase	0.12 (8.33)	0.30 (3.33)
<i>Respiratory electron transport chain</i>					
CAL0005742	<i>BCS1</i>	YDR375C	Chaperone-mediated protein complex assembly	0.41 (2.44)	0.44 (2.27)
CAL0000927	<i>CYC1</i>	YJR048W	Mitochondrial electron transport, ubiquinol to	0.36 (2.78)	0.17 (5.88)
CAL0003316	<i>IPF24060.1</i>	YHR116W	Mitochondrial respiratory chain complex assembly	0.28 (3.57)	0.41 (2.44)
CAL0000978	<i>SDH2</i>	YLL041C	Mitochondrial respiratory chain complex II	0.31 (3.23)	0.50 (2.00)
CAL0004721	<i>SDH4</i>	YDR178W	Mitochondrial respiratory chain complex II	0.30 (3.33)	0.38 (2.63)

CAL0006092	<i>CBP3</i>	YPL215W	Mitochondrial respiratory chain complex III assembly	0.36 (2.78)	0.26 (3.85)
CAF0007013	<i>QCR8</i>	YJL166W	Mitochondrial respiratory chain complex III	0.36 (2.78)	0.31 (3.23)
CAL0003458	<i>QCR2</i>	YPR191W	Mitochondrial respiratory chain complex III	0.28 (3.57)	0.40 (2.50)
CAL0005851	<i>CYT1</i>	YOR065W	Mitochondrial respiratory chain complex III	0.26 (3.85)	0.41 (2.44)
CAL0003624	<i>IPF21976.1</i>	YPR100W	Mitochondrial large ribosomal subunit	0.24 (4.17)	0.31 (3.23)
CAL0002472	<i>RIP1</i>	YEL024W	Mitochondrial respiratory chain complex III	0.23 (4.35)	0.27 (3.70)
CAL0004684	<i>COR1</i>	YBL045C	Mitochondrial respiratory chain complex III	0.17 (5.88)	0.36 (2.78)
CAF0006913	<i>COX6</i>	YHR051W	Mitochondrial respiratory chain complex IV	0.22 (4.55)	0.33 (3.03)
CAL0000422	<i>COX15</i>	YER141W	Respiratory chain complex IV assembly	0.21 (4.76)	0.08 (12.5)
CAL0004689	<i>COX4</i>	YGL187C	Protein described as subunit IV of cytochrome c oxidase	0.30 (3.33)	0.45 (2.22)
CAL0000236	<i>IPF690.2</i>	None	Protein described as NADH-ubiquinone oxidoreductase	0.38 (2.63)	0.41 (2.44)
CAL0000774	<i>IPF25643.1</i>	None	Protein described as NADH-ubiquinone oxidoreductase	0.21 (4.76)	0.41 (2.44)
CAL0003145	<i>NUC2</i>	None	Protein described as NADH-ubiquinone oxidoreductase	0.15 (6.67)	0.31 (3.23)
CAL0006345	<i>IPF25079.1</i>	YGL068W	Aerobic respiration	0.21 (4.76)	0.19 (5.26)
CAL0002635	<i>GDS1</i>	YOR355W	Aerobic respiration	0.21 (4.76)	0.25 (4.00)
<i>Lipid metabolic process</i>					
CAL0002977	<i>URA7</i>	YBL039C	Phospholipid biosynthetic process	0.48 (2.08)	0.35 (2.86)
CAL0003358	<i>FAS2</i>	YPL231W	Alpha subunit of fatty-acid synthase	0.39 (2.56)	0.34 (2.94)
CAL0001206	<i>FMP44</i>	YBR004C	GPI anchor biosynthetic process	0.39 (2.56)	0.44 (2.27)
CAL0001431	<i>IPF20776.1</i>	YML059C	Putative patatin-like phospholipase	0.19 (5.26)	0.34 (2.94)

CAL0003035	<i>EBP1</i>	YHR179W	NADPH oxidoreductase	0.05 (20.00)	0.21 (4.76)
CAL0005104	<i>ASM3</i>	None	Putative secreted acid sphingomyelin phosphodiesterase	0.23 (4.35)	0.34 (2.94)
CAL0003509	<i>IPF12430.2</i>	YHR067W	Fatty acid biosynthetic process	0.07 (14.29)	0.49 (2.04)
CAL0002903	<i>IPF22599.1</i>	YJR013W	GPI anchor biosynthetic process	0.08 (12.50)	0.09 (11.11)
CAL0003066	<i>SCT1</i>	YBL011W	Putative glycerol-3-phosphate O-acyltransferase	0.11 (9.09)	0.36 (2.78)
CAL0003358	<i>FAS2</i>	YPL231W	Alpha subunit of fatty-acid synthase	0.14 (7.14)	0.34 (2.94)
CAL0005938	<i>MVD</i>	YNR043W	Mevalonate diphosphate decarboxylase	0.16 (6.25)	0.47 (2.13)
CAL0005630	<i>ACCI</i>	YNR016C	Acetyl-CoA carboxylase activity	0.24 (4.17)	0.35 (2.86)
CAL0000008	<i>TGL99</i>	YKL140W	Lipid metabolic process	0.23 (4.35)	0.47 (2.13)
CAL0005333	<i>LIP6</i>	None	Secreted lipase	0.25 (4.00)	0.39 (2.56)
CAL0000562	<i>AYR2</i>	YIL124W	Acylglycerone-phosphate reductase activity	0.13 (7.69)	0.32 (3.13)
<i>Translation</i>					
CAF0007060	<i>RPL35</i>	YDL136W	Ribosomal protein	0.05 (20.00)	0.11 (9.09)
CAF0006876	<i>RPL6</i>	YLR448W	Structural constituent of ribosome	0.05 (20.00)	0.22 (4.55)
CAL0003667	<i>RPL20B</i>	YMR242C	Predicted ribosomal protein	0.09 (11.11)	0.28 (3.57)
CAF0006944	<i>RPL2</i>	YFR031C-A	Structural constituent of ribosome	0.10 (10.00)	0.22 (4.55)
CAL0003181	<i>RPL5</i>	YPL131W	Predicted ribosomal protein	0.06 (16.67)	0.31 (3.23)
CAL0006405	<i>RPL12</i>	YDR418W	Predicted ribosomal protein	0.11 (9.09)	0.42 (2.38)
CAL0000666	<i>RPL82</i>	YLL045C	Predicted ribosomal protein	0.09 (11.11)	0.37 (2.70)
CAF0007000	<i>RPL43A</i>	YJR094W-A	Predicted ribosomal protein	0.09 (11.11)	0.20 (5.00)

---

CAF0006985	<i>RPL32</i>	YBL092W	Predicted ribosomal protein	0.07 (14.29)	0.27 (3.70)
CAL0005018	<i>RPL8B</i>	YLL045C	Predicted ribosomal protein	0.05 (20.00)	0.23 (4.35)
CAL0003235	<i>RPL19A</i>	YBL027W	Predicted ribosomal protein	0.13 (7.69)	0.40 (2.50)
CAF0006907	<i>RPL37B</i>	YDR500C	Predicted ribosomal protein	0.14 (7.14)	0.29 (3.45)
CAL0005216	<i>RPL16A</i>	YIL133C	Structural constituent of ribosome	0.10 (10.00)	0.40 (2.50)
CAL0005866	<i>RPL15A</i>	YLR029C	Putative ribosomal protein;	0.14 (7.14)	0.30 (3.33)
CAL0006240	<i>RPL11</i>	YGR085C	Predicted ribosomal protein	0.15 (6.67)	0.26 (3.85)
CAF0006997	<i>RPL30</i>	YGL030W	Structural constituent of ribosome	0.27 (3.70)	0.38 (2.63)
CAL0006017	<i>RPL10</i>	YLR075W	Putative ribosomal protein;	0.28 (3.57)	0.42 (2.38)
CAL0006678	<i>RPL29</i>	YFR032C-A	Ribosomal protein L29	0.29 (3.45)	0.46 (2.17)
CAF0006935	<i>RPL38</i>	YLR325C	Predicted ribosomal protein	0.17 (5.88)	0.37 (2.70)
CAL0003449	<i>RPL18</i>	YNL301C	Structural constituent of ribosome	0.15 (6.67)	0.44 (2.27)
CAL0002747	<i>RPL21A</i>	YBR191W	Putative ribosomal protein;	0.15 (6.67)	0.43 (2.33)
CAL0005770	<i>RPL23A</i>	YBL087C	Putative ribosomal protein;	0.15 (6.67)	0.41 (2.44)
CAL0006679	<i>RPL39</i>	YMR194W	Ribosomal protein L39;	0.11 (9.09)	0.30 (3.33)
CAL0005037	<i>RPL10A</i>	YGL135W	Predicted ribosomal protein	0.13 (7.69)	0.27 (3.70)
CAL0003235	<i>RPL19A</i>	YBL027W	Predicted ribosomal protein	0.13 (7.69)	0.40 (2.50)
CAL0006157	<i>RPL13</i>	YDL082W	Structural constituent of ribosome	0.18 (5.56)	0.45 (2.22)
CAL0003957	<i>RPL9B</i>	YNL067W	Predicted ribosomal protein	0.19 (5.26)	0.29 (3.45)
CAF0006966	<i>RPL28</i>	YGL103W	Structural constituent of ribosome	0.18 (5.56)	0.49 (2.04)

---

---

CAF0007021	<i>RPL40B</i>	YKR094C	Structural constituent of ribosome	0.13 (7.69)	0.29 (3.45)
CAF0007061	<i>RPS19A</i>	YOL121C	Structural constituent of ribosome	0.14 (7.14)	0.26 (3.85)
CAF0006970	<i>RPS16A</i>	YDL083C	Structural constituent of ribosome	0.17 (5.88)	0.42 (2.38)
CAF0007095	<i>RPS28B</i>	YLR264W	Structural constituent of ribosome	0.14 (7.14)	0.27 (3.70)
CAF0006947	<i>RPS17B</i>	YDR447C	Structural constituent of ribosome	0.12 (8.33)	0.27 (3.70)
CAF0007074	<i>RPS14B</i>	YJL191W	Structural constituent of ribosome	0.17 (5.88)	0.47 (2.13)
CAF0007004	<i>RPS13</i>	YDR064W	Structural constituent of ribosome	0.21 (4.76)	0.42 (2.38)
CAL0001384	<i>RPS20</i>	YHL015W	Putative ribosomal protein;	0.06 (16.67)	0.34 (2.94)
CAL0005867	<i>RPS8A</i>	YBL072C	Putative ribosomal protein;	0.11 (9.09)	0.37 (2.70)
CAL0004156	<i>RPS42</i>	YHR203C	Structural constituent of ribosome	0.11 (9.09)	0.22 (4.55)
CAL0005300	<i>RPS24</i>	YER074W	Predicted ribosomal protein	0.20 (5.00)	0.31 (3.23)
CAL0000540	<i>RPS22A</i>	YJL190C	Predicted ribosomal protein	0.09 (11.11)	0.23 (4.35)
CAL0003305	<i>RPS15</i>	YOL040C	Predicted ribosomal protein	0.15 (6.67)	0.20 (5.00)
CAF0006982	<i>RPS21B</i>	YJL136C	Structural constituent of ribosome	0.19 (5.26)	0.39 (2.56)
CAL0004119	<i>RPS21</i>	YGL123W	Predicted ribosomal protein	0.17 (5.88)	0.22 (4.55)
CAL0004156	<i>RPS42</i>	YHR203C	Structural constituent of ribosome	0.17 (5.88)	0.22 (4.55)
CAF0006912	<i>RPS9B</i>	YBR189W	Predicted ribosomal protein	0.09 (11.11)	0.27 (3.70)
CAL0000756	<i>RPS7A</i>	YOR096W	Predicted ribosomal protein	0.12 (8.33)	0.31 (3.23)
CAL0004310	<i>RPS4A</i>	YJR145C	Predicted ribosomal protein	0.12 (8.33)	0.30 (3.33)
CAL0003748	<i>RPS6A</i>	YBR181C	Predicted ribosomal protein	0.13 (7.69)	0.36 (2.78)

---

CAL0006156	<i>RPP1A</i>	YDL081C	Conserved acidic ribosomal protein	0.15 (6.67)	0.12 (8.33)
CAL0006683	<i>RPP2A</i>	YDR382W	Conserved acidic ribosomal protein	0.20 (5.00)	0.43 (2.33)
CAL0003308	<i>RPP2B</i>	YDR382W	Conserved acidic ribosomal protein	0.22 (4.55)	0.22 (4.55)
CAL0002861	<i>IPF10027.2</i>	YOL139C	Translation initiation factor activity	0.49 (2.04)	0.37 (2.70)
CAL0005880	<i>NAM9</i>	YNL137C	Structural constituent of ribosome	0.28 (3.57)	0.27 (3.70)
CAL0001364	<i>RSM24</i>	YDR175C	Structural constituent of ribosome	0.34 (2.94)	0.42 (2.38)
CAL0006187	<i>IPF25143.1</i>	YDR237W	Structural constituent of ribosome	0.39 (2.56)	0.34 (2.94)
CAF0006993	<i>IPF23568.1</i>	YNR037C	Structural constituent of ribosome	0.40 (2.50)	0.15 (6.67)
CAL0002638	<i>IMG1</i>	YCR046C	Structural constituent of ribosome	0.20 (5.00)	0.37 (2.70)
CAL0000338	<i>IPF26717.1</i>	YNL252C	Structural constituent of ribosome	0.03 (33.33)	0.12 (8.33)
CAL0004340	<i>IPF4102.2</i>	YBL038W	Structural constituent of ribosome	0.33 (3.03)	0.21 (4.76)
CAL0005205	<i>RML2</i>	<i>RML2</i>	Structural constituent of ribosome	0.33 (3.03)	0.31 (3.23)
CAL0000370	<i>YST1</i>	YGR214W	Structural constituent of ribosome	0.07 (14.29)	0.18 (5.56)
CAL0001930	<i>LPA4</i>	YPL013C	Structural constituent of ribosome	0.42 (2.38)	0.37 (2.70)
CAF0006992	<i>IPF23615.1</i>	YGR034W	Structural constituent of ribosome	0.15 (6.67)	0.30 (3.33)
CAL0005986	<i>MRPL8</i>	YJL063C	Structural constituent of ribosome	0.31 (3.23)	0.16 (6.25)
CAL0002038	<i>EFB1</i>	YAL003W	Translation elongation factor EF-1 beta	0.42 (2.38)	0.40 (2.50)
CAL0004986	<i>RPS12</i>	YOR369C	Protein described as acidic ribosomal protein S12	0.12 (8.33)	0.27 (3.70)
CAF0007073	<i>IPF20908.1</i>	YJL189W	Structural constituent of ribosome	0.12 (8.33)	0.24 (4.17)
CAL0001141	<i>IPF26642.1</i>	YNL306W	Structural constituent of ribosome	0.10 (10.00)	0.13 (7.69)



CAL0003524	<i>WRS1</i>	YOL097C	Putative tRNA-Trp synthetase	0.14 (7.14)	0.30 (3.33)
CAL0002084	<i>IPF470.1</i>	YGL245W	Glutamate-tRNA ligase activity	0.14 (7.14)	0.39 (2.56)
CAF0006953	<i>IPF7197.2</i>	YGL076C	Structural constituent of ribosome	0.16 (6.25)	0.33 (3.03)
CAL0004282	<i>GCN1</i>	YGL195W	Regulation of translational elongation	0.35 (2.86)	0.33 (3.03)
CAL0005746	<i>CEF3</i>	YLR249W	Translation elongation factor 3 (EF-3);	0.17 (5.88)	0.25 (4.00)
CAL0000808	<i>ISM1</i>	YPL040C	Mitochondrial translation	0.19 (5.26)	0.21 (4.76)
CAL0005153	<i>MRP21</i>	YBL090W	Structural constituent of ribosome	0.17 (5.88)	0.22 (4.55)
CAF0006990	<i>IPF23702.1</i>	YLR406C	Structural constituent of ribosome	0.18 (5.56)	0.34 (2.94)
CAL0001575	<i>IPF25529.1</i>	YER049W	Translational termination	0.20 (5.00)	0.42 (2.38)
CAL0005131	<i>TUF1</i>	YOR187W	Putative translation elongation factor	0.22 (4.55)	0.28 (3.57)
CAL0001484	<i>DOM34</i>	YNL001W	Nonfunctional rRNA decay	0.25 (4.00)	0.31 (3.23)
CAL0003549	<i>TYS1</i>	YGR185C	Putative tRNA-Tyr synthetase	0.25 (4.00)	0.37 (2.70)
CAL0003839	<i>TIF35</i>	YDR429C	Putative translation initiation factor	0.26 (3.85)	0.42 (2.38)
CAL0000218	<i>IPF26811.1</i>	YCR003W	Structural constituent of ribosome	0.27 (3.70)	0.20 (5.00)
CAL0005820	<i>IPF23099.1</i>	YMR188C	Structural constituent of ribosome	0.23 (4.35)	0.33 (3.03)
CAL0002812	<i>IPF26428.1</i>	YDR322W	Structural constituent of ribosome	0.25 (4.00)	0.25 (4.00)
CAL0005933	<i>IPF23746.1</i>	YGR165W	Structural constituent of ribosome	0.26 (3.85)	0.37 (2.70)
CAL0001217	<i>IPF20807.1</i>	YLR312W-A	Structural constituent of ribosome	0.06 (16.67)	0.28 (3.57)
CAF0006916	<i>IPF26366.1</i>	YDR115W	Structural constituent of ribosome	0.29 (3.45)	0.21 (4.76)
CAL0004686	<i>RSM7</i>	YJR113C	Structural constituent of ribosome	0.32 (3.13)	0.31 (3.23)

CAL0004886	<i>RSM10</i>	YDR041W	Structural constituent of ribosome	0.27 (3.70)	0.46(2.17)
CAL0001457	<i>DPS1-1</i>	YLL018C	Putative tRNA-Asp synthetase	0.27 (3.70)	0.32 (3.13)
CAL0003469	<i>CAM1-1</i>	YPL048W	Translation elongation factor activity	0.11 (9.09)	0.43 (2.33)
CAL0001942	<i>SSZ1</i>	YHR064C	Protein described as an HSP70 chaperone	0.22 (4.55)	0.48 (2.08)
CAL0002761	<i>DIA4</i>	YHR011W	Serine-tRNA ligase activity	0.30 (3.33)	0.40 (2.50)
<i>Cell wall maintenance</i>					
CAL0003775	<i>RBE1</i>	YJL079C	Putative cell wall protein;	0.09 (11.11)	0.08 (12.50)
CAL0001461	<i>ENG1</i>	YNR067C	Endo-1,3-beta-glucanase	0.33 (3.03)	0.38 (2.63)
CAL0003597	<i>IPF21970.1</i>	None	Putative cell wall protein	0.02 (50.00)	0.08 (12.50)
CAL0004247	<i>RHD3</i>	None	GPI-anchored cell wall protein	0.07 (14.29)	0.11 (9.09)
CAL0000839	<i>UGP1</i>	YKL035W	1,6-beta-glucan biosynthetic process	0.29 (3.45)	0.44 (2.27)
CAL0000219	<i>CHT3</i>	YLR286C	Chitinase, major	0.14 (7.14)	0.16 (6.25)

D\* means decreased fold change.

**Table S2.** Selected genes that are upregulated in 10b-grown *C. albicans* SC5314 as compared with growth without treatment, determined in two independent experiments.

Primary CGDID	Gene name	<i>S. cerevisiae</i> homologue name	Function	Change in fold expression	
				Ratio1	ratio2
<i>Generation energy</i>					
CAL0002010	<i>MRF1</i>	YBR026C	Protein similar to mitochondrial respiratory proteins	3.34	4.87
CAL0001374	<i>YMX6</i>	YMR145C	NADH dehydrogenase	2.47	2.70
CAL0005127	<i>DLD1</i>	YDL174C	D-lactate dehydrogenase (cytochrome) activity	3.19	2.11
CAL0005514	<i>GLG2</i>	YJL137C	Glycogenin glucosyltransferase activity	4.67	2.25
<i>ROS scavenge</i>					
AL0004456	<i>SOD5</i>	None	Cu/zn-containing superoxide dismutase	31.45	31.71
CAL0005271	<i>SOD6</i>	None	Copper- and zinc-containing superoxide dismutase	2.56	3.62
CAL0000683	<i>GPX1</i>	YIR037W	Glutathione peroxidase	5.91	8.79
<i>Fermentation</i>					
CAL0002620	<i>ADH3</i>	YAL060W	Alcohol dehydrogenase (NAD) activity	13.94	38.96
CAL0003363	<i>ADH5</i>	YBR145W	Putative alcohol dehydrogenase	3.05	7.99
<i>Translation</i>					

---

CAL0006909	<i>RPL25</i>	YOL127W	Structural constituent of ribosome	3.08	2.89
CAL0003056	<i>SUII</i>	YNL244C	Putative translation initiation factor	2.05	2.13
<i>Lipid metabolic process</i>					
CAL0004893	<i>ATG15</i>	YCR068W	Putative lipase	5.06	2.75
CAL0003909	<i>INP51</i>	YIL002C	Inositol-polyphosphate 5-phosphatase activity	2.41	3.27
CAL0005049	<i>LRO1</i>	YNR008W	Phospholipid:diacylglycerol acyltransferase activity	2.46	3.27
CAL0004027	<i>SLD1</i>	None	Sphingolipid delta-8 desaturase	4.66	6.48
CAL0003570	<i>LCB4</i>	YOR171C	Putative sphingosine kinase	2.93	3.33
CAL0001256	<i>PEX11</i>	YOL147C	Fatty acid oxidation	3.16	2.58
CAL0003504	<i>TES15</i>	YJR019C	Fatty acid metabolic process	7.40	7.02
CAL0002240	<i>DPP3</i>	YDR284C	Diacylglycerol pyrophosphate phosphatase activity	7.48	5.86
CAL0005073	<i>ERG2</i>	YMR202W	C-8 sterol isomerase	38.91	40.11
CAL0002665	<i>ERG5</i>	YMR015C	C-22 sterol desaturase	3.20	7.93
CAL0004388	<i>ERG4</i>	YGL012W	Sterol C-24 reductase	3.01	4.36
CAL0001165	<i>ERG25</i>	YGR060W	C-4 methyl sterol oxidase	8.64	5.06
CAL0006397	<i>ERG6</i>	YML008C	Sterol 24-C-methyltransferase	8.49	6.72
CAL0005678	<i>ERG10</i>	YPL028W	Acetyl-CoA acetyltransferase	2.39	4.20

---

---

CAL0005685	<i>ERG24</i>	YNL280C	Delta14-sterol reductase	5.02	3.65
CAL0003665	<i>ERG251</i>	YGR060W	C-4 methylsterol oxidase activity	2.00	3.74
CAL0003974	<i>IPF25962.1</i>	YNL111C	Sterol biosynthetic process	3.19	3.36
CAL0000465	<i>CWH8</i>	YGR036C	Dolichyl pyrophosphate (Dol-P-P) phosphatase	6.05	2.59
CAL0001102	<i>CHO1</i>	YER026C	Putative phosphatidylserine synthase	26.17	12.42
CAL0003505	<i>TES4</i>	YJR019C	Fatty acid metabolic process	10.20	4.82
CAL0004910	<i>MIT1</i>	YPL057C	Sphingolipid biosynthesis	6.92	2.98
CAL0002213	<i>EC11</i>	YLR284C	Fatty acid beta-oxidation	5.97	5.62
CAL0002210	<i>DC11</i>	YLR284C	Fatty acid beta-oxidation	4.94	4.46
CAL0005741	<i>IPF20283.1</i>	YNL202W	2,4-dienoyl-CoA reductase (NADPH) activity	2.80	3.17
CAL0004431	<i>TGL1</i>	YKL140W	Sterol esterase activity	2.75	2.19
CAL0000760	<i>FOX3</i>	YIL160C	Peroxisomal 3-oxoacyl CoA thiolase	2.72	4.17
CAL0004272	<i>ID11</i>	YPL117C	Isopentenyl-diphosphate delta-isomerase activity	2.09	2.22
CAL0003011	<i>PSD2</i>	YGR170W	Phosphatidylserine decarboxylase activity	2.00	2.49
CAL0006272	<i>ARE2</i>	YGR170W	Acyl CoA:sterol acyltransferase	2.02	4.01
<i>Cell wall maintenance</i>					
CAL0006153	<i>XOG1</i>	YLR300W	Exo-1,3-beta-glucanase, major exoglucanase	70.26	30.40

---

---

CAL0006391	<i>CHT1</i>	YLR286C	Chitinase	9.56	3.26
CAL0005999	<i>GSC1</i>	YGR032W	Subunit of beta-1,3-glucan synthase	4.96	3.07
CAL0002219	<i>TRI4</i>	YDR402C	Ascospore wall assembly	5.46	2.96
CAL0002655	<i>CIS303</i>	YKL163W	Structural constituent of cell wall	47.32	3.29
CAL0004169	<i>CRH11</i>	YGR189C	GPI-anchored cell wall protein	15.15	7.92
CAL0004108	<i>HEX1</i>	None	Beta-N-acetylhexosaminidase	2.02	2.41
CAL0000299	<i>IRS4</i>	YJL083W	Fungal-type cell wall organization	6.70	5.80
CAL0004244	<i>PGA31</i>	YIR019C	Putative GPI anchor	8.11	33.75
CAL0003895	<i>AVO2</i>	YMR068W	Fungal-type cell wall organization	5.57	4.19
CAL0006050	<i>EXG2</i>	YLR300W	GPI-anchored cell wall protein	2.22	2.39
<i>Cell stress</i>					
CAL0003828	<i>DAG7</i>	YNL283C	Response to drug	18.04	13.43
CAL0003404	<i>YPT31</i>	YGL210W	GTPase activity	2.51	4.43
CAL0005233	<i>RIM8</i>	YGL045W	Response to pH	6.16	2.33
CAL0002299	<i>SGT2</i>	YOR007C	Response to heat	2.10	2.37
CAL0006364	<i>GPA2</i>	YER020W	Response to glucose stimulus	2.22	3.32
CAL0005151	<i>TTR1</i>	YDR513W	Response to oxidative stress	2.24	3.46

---

---

CAL0000641	<i>MET15</i>	YLR303W	Response to drug	2.27	6.80
CAL0005613	<i>TRP99</i>	YLR109W	Response to oxidative stress	2.49	3.44
CAL0004546	<i>SSU81</i>	YER118C	Predicted adaptor protein, response to oxidative stress	4.49	2.93
CAL0000977	<i>IPF4952.1</i>	YDR411C	Endoplasmic reticulum unfolded protein response	8.28	3.02
CAL0001563	<i>SIP5</i>	YMR140W	Putative transcription factor	4.47	4.07
CAL0002586	<i>AUR1</i>	YKL004W	Inositolphosphorylceramide (IPC) synthase	4.30	2.40
CAL0005739	<i>IPF11626.2</i>	YBR014C	Glutathione-disulfide reductase activity	3.04	2.75
CAL0000641	<i>MET15</i>	YLR303W	O-acetylhomoserine O-acetylserine sulfhydrylase	2.78	6.80
CAL0001289	<i>VID27</i>	YNL212W	Response to drug	2.65	2.18

---