

Supplementary Table S1. *Caenorhabditis elegans* and *Candida albicans* genes used in this study

<i>Caenorhabditis elegans</i>		
Reference genes		
Probe Name	Process/Description	References
<i>rps-2</i>	Predicted structural constituent of ribosome	1,2
<i>rps-4</i>	Predicted structural constituent of ribosome	1,2
<i>rps-23</i>	Predicted structural constituent of ribosome	1,2
Lipid metabolism		
Probe Name	Process/Description	References
<i>cyp-29A2</i>	Cytochrome P450, involved in lipid storage	2,3
<i>cyp-29A3</i>	Cytochrome P450, involved in eicosapentaenoic acid (EPA) metabolism	2,4
<i>cyp-32A1</i>	Cytochrome P450, involved in reproduction and possibly eicosanoid production	2,5
<i>cyp-33C1</i>	Cytochrome P450	2
<i>cyp-33E1</i>	Cytochrome P450, orthologue of <i>cyp-33E2</i> , possibly involved in long-chain fatty acid metabolic process	2
<i>cyp-33E2</i>	Cytochrome P450, involved in long chain fatty acid metabolic process and regulation of pharyngeal pumping	2
<i>cyp-37A1</i>	Cytochrome P450, expressed in intestine, involved in lipid storage and life span	2,3
<i>cyp-42A1</i>	Cytochrome P450, involved in lipid metabolism and protection against glucotoxicity	2,6
<i>elo-1</i>	Predicted fatty acid elongase, involved in unsaturated fatty acid biosynthetic process	2
<i>elo-2</i>	Predicted fatty acid elongase, involved in several processes, including determination of adult lifespan, lipid metabolic process and reproduction	2
<i>elo-3</i>	Predicted fatty acid elongase	2
<i>elo-4</i>	Predicted fatty acid elongase	2
<i>elo-5</i>	Predicted fatty acid elongase, expressed in amphid neurons and intestine	2
<i>elo-6</i>	Predicted fatty acid elongase, expressed in amphid neurons, intestine, nerve ring and vulva	2
<i>elo-7</i>	Predicted fatty acid elongase	2
<i>elo-8</i>	Predicted fatty acid elongase	2
<i>elo-9</i>	Predicted fatty acid elongase	2
<i>emb-8</i>	NADPH-cytochrome P450 reductase, involved in eggshell formation and lipid biosynthetic process	2
<i>fat-1</i>	Omega-3 fatty acid desaturase involved in positive regulation of locomotion and unsaturated fatty acid biosynthetic process	2

<i>fat-2</i>	Delta 12-fatty acid dehydrogenase and stearoyl-CoA 9-desaturase involved in fatty acid biosynthetic process and innate immune response	2
<i>fat-3</i>	Stearoyl-CoA 9-desaturase	2
<i>fat-4</i>	Stearoyl-CoA 9-desaturase involved in unsaturated fatty acid biosynthetic process	2
<i>fat-5</i>	Predicted to enable iron ion binding activity and stearoyl-CoA 9-desaturase activity, involved in long-chain fatty acid biosynthetic process	2
<i>fat-6</i>	Stearoyl-CoA 9-desaturase activity, involved in innate immune response, long-chain fatty acid biosynthetic process and multicellular organism development	2
<i>fat-7</i>	Stearoyl-CoA 9-desaturase activity, involved in fatty acid biosynthetic process	2
<i>mboa-7</i>	Enables O-acyltransferase activity. Is involved in nematode larval development, oviposition and phosphatidylinositol biosynthetic process.	2
<i>nhr-49</i>	Involved in determination of adult lifespan, positive regulation of transcription from RNA polymerase II promoter in response to stress, regulation of fatty acid metabolic process and regulates immuno-metabolic response to bacterial infection	2,7
Immune response		
Probe Name	Process/Description	References
<i>abf-2</i>	Involved in defence response to Gram-negative and Gram-positive bacteria	2
<i>abf-3</i>	Involved in innate immune response to Gram-negative bacteria	2
<i>atf-7</i>	Involved in several processes, including defence response to Gram-negative bacterium, regulation of innate immune response and regulation of transcription by RNA polymerase II	2
<i>cht-1</i>	Chitinase involved in response to fungus	2
<i>cllec-60</i>	C-type lectin involved in defence response to Gram-positive bacteria, expressed in intestine	2
<i>cllec-67</i>	C-type lectin involved in PERK-mediated unfolded protein response. Is expressed in intestine	2
<i>cnc-2</i>	Caenacin involved in defence response to Gram-negative bacterium, defence response to fungus and innate immune response, expressed in hypodermis	2
<i>cnc-4</i>	Caenacin involved in defence response to fungus and innate immune response	2
<i>cnc-5</i>	Caenacin involved in defence response to fungus and innate immune response	2
<i>cnc-6</i>	Caenacin involved in defence response to fungus and innate immune response	2

<i>col-179</i>	Predicted extracellular matrix structural constituent, involved in defence response to Gram-negative bacterium and innate immune response	2
<i>cyp-14A2</i>	Cytochrome P450, expressed in intestine, possibly involved in stress response and detoxification	2,8
<i>cyp-37B1</i>	Cytochrome P450, involved in defence response to Gram-positive bacteria	2
<i>daf-16</i>	Involved in several processes, including defence response to other organisms	2
<i>fipr-22</i>	Fungus induced peptide enriched in GABAergic neurons, excretory cell and hypodermis	2
<i>ilys-2</i>	Lysozyme involved in defence response to Gram-positive bacterium	2
<i>ilys-5</i>	Lysozyme	2
<i>lys-2</i>	Lysozyme involved in defence response to Gram-negative and Gram-positive bacteria	2
<i>lys-4</i>	Lysozyme involved in defence response to Gram-positive bacterium	2
<i>lys-5</i>	Lysozyme involved in defence response to Gram-positive bacteria	2
<i>lys-6</i>	Lysozyme	2
<i>lys-7</i>	Lysozyme expressed in head neurons intestine and rectal gland cell	2
<i>spp-1</i>	Caenopore involved in defence response to other organism and pore formation in membrane of another organism	2
<i>spp-2</i>	Caenopore involved in defence response to Gram-positive bacteria	2
<i>spp-3</i>	Caenopore involved in defence response to Gram-negative and Gram-positive bacteria	2
<i>spp-4</i>	Caenopore enriched in hypodermis and intestine	2
<i>spp-8</i>	Caenopore enriched in outer labial lateral neurons, polymodal nociceptive neurons and intestine	2
<i>spp-12</i>	Caenopore involved in defence response to Gram-positive bacteria	2
<i>spp-14</i>	Caenopore involved in immune response	2
<i>spp-23</i>	Caenopore enriched in dorsal A neuron, ventral A neuron, intestine and pharyngeal muscle cell	2
<i>Candida albicans</i>		
Reference genes		
Probe Name	Process/Description	References
<i>ACT1</i>	Actin	9,10
<i>LSC2</i>	Putative succinate-CoA ligase beta subunit	9,10
<i>THD3</i>	NAD-linked glyceraldehyde-3-phosphate dehydrogenase	9,10
Filamentation		

Probe Name	Process/Description	References
<i>ACE2</i> (orf19.6124)	Transcription factor that regulates morphogenesis, mutant is hyperfilamentous	9
<i>ADA2</i> (orf19.2331)	Transcriptional coactivator, role in cell wall integrity. Mutation prevents hyphal formation in <i>Caenorhabditis elegans</i>	9
<i>ADR1</i> (orf19.2752)	Transcription factor, transposon mutation affects filamentous growth	9
<i>AFT2</i> (orf19.2272)	Putative transcription factor with role in hyphal growth	9
<i>AHR1</i> (orf19.7381)	Transcription factor, involved in regulation of adhesion genes. Mutation affects hyphal growth	9
<i>ALS1</i> (orf19.5741)	Cell-surface adhesin with role in biofilm formation and hyphal formation. Arachidonic acid (AA) responsive gene	9,11
<i>ARG81</i> (orf19.4766)	Transcription factor, required for ornithine utilisation. Mutation may increase filamentation in certain strains.	9
<i>ALS3</i> (orf19.1816)	Cell wall adhesion and hyphal-associated invasin, mutation causes defect in biofilm formation	9
<i>ASG1</i> (orf19.166)	Transcription factor, mutation causes decreased filamentation in certain strains	9
<i>ASH1</i> (orf19.5343)	Transcription factor required for filamentous growth on solid media	9
<i>BCR1</i> (orf19.723)	Transcription factor, regulates biofilm formation and involved in hyphal growth	9
<i>BRE1</i> (orf19.976)	Putative E3 ubiquitin ligase, involved in ubiquitination of histone H2B during hyphal development, transposon mutation affects filamentous growth	9
<i>BRG1</i> (orf19.4056)	Transcription factor, transposon mutation affects filamentation	9
<i>CAS5</i> (orf19.4670)	Transcription factor, mutants have hyphal defect in <i>C. elegans</i> infection. AA responsive gene	9,11
<i>CPH1</i> (orf19.4433)	Transcription factor involved in filamentation on solid media	9
<i>CPH2</i> (orf19.1187)	Transcription factor, promotes hyphal growth	9
<i>CRZ1</i> (orf19.7359)	Calcineurin-regulated transcription factor, mutation decreases hyphal formation in certain strains. AA responsive gene	9,11
<i>CSR1</i> (orf19.3794)	Transcription factor, mutation affects filamentous growth	9
<i>CTA4</i> (orf19.7374)	Transcription factor, involved in mating. Mutants may Mutations cause decreased filamentation. AA responsive gene	9,11
<i>CTA8</i> (<i>HSF1</i>) (orf19.4775)	Essential transcription factor, mutation may cause increased hyphal growth in certain strains	9

<i>CUP9</i> (orf19.6514)	Transcription factor, mutants have increased filamentous growth. AA responsive gene	9,11
<i>CWT1</i> (orf19.5849)	Transcription factor, mutation causes decreased filamentous growth in certain strains	9
<i>CZF1</i> (orf19.3127)	Hyphal growth regulator. AA responsive gene	9,11
<i>EFG1</i> (orf19.610)	Transcription factor, required for hyphal growth	9
<i>EFH1</i> (orf19.5498)	Transcription factor, regulates filamentous growth	9
<i>ERG11</i> (orf19.922)	Cytochrome P450 family, role in ergosterol biosynthesis and hyphal formation. AA responsive gene	9,11
<i>FCR1</i> (orf19.6817)	Transcription factor, transposon mutation enhances filamentation. Polyunsaturated fatty acid AA responsive gene	9,11
<i>FGR13</i> (orf19.1006)	Transposon mutation affects filamentous growth	9
<i>FGR17</i> (orf19.5729)	Putative transcription factor, transposon mutation affects filamentous growth	9
<i>FGR27</i> (orf19.6680)	Transcription factor, transposon mutation affects filamentous growth	9
<i>FKH2</i> (orf19.5389)	Transcription factor, mutant lacks true hyphae, is constitutively pseudohyphal.	9
<i>FLO8</i> (orf19.1093)	Transcription factor required for hyphal formation, regulates hyphal gene expression	9
<i>GPR1</i> (orf19.1944)	Plasma membrane G-protein-coupled receptor required for wild type hyphal growth	9
<i>GRF10</i> (orf19.4000)	Putative transcription factor, involved in control of filamentous growth	9
<i>HAP5</i> (orf19.1973)	Transcription factor with roles in filamentous growth	9
<i>HMS1</i> (orf19.921)	Transcript factor required for morphogenesis induced by elevated temperature	9
<i>HOT1</i> (orf19.3328)	Required for inhibition of filamentous growth by farnesoic acid, filament induced	9
<i>HWP1</i> (orf19.13.21)	Hyphal cell wall protein	9
<i>MED7</i> (orf19.232)	Subunit of the RNA polymerase II mediator complex. Mutations may affect filamentation in certain strains	9
<i>MSS11</i> (orf19.6309)	Transcription factor required for hyphal growth	9
<i>NDT80</i> (orf19.2119)	Activator of <i>CDR1</i> induction by antifungal drugs, required for Spider biofilm formation and hyphal formation. AA responsive gene	9,11
<i>NGS1</i> (orf19.7516)	Acts as N-acetylglucosamine (GlcNAc) sensor required for GlcNAc-induced filamentation	9
<i>NOT3</i> (orf19.2012)	Transcriptional regulator, mutant colonies exhibit slightly decreased filamentation ratio	9

<i>NOT5</i> (orf19.5107)	Member of the transcription regulatory CCR4-NOT complex, required for hyphal growth	9
<i>NRG1</i> (orf19.7150)	Transcription factor/repressor, regulates hyphal gene induction. AA responsive gene	9,11
<i>OF11</i> (orf19.4972)	Putative transcription factor involved in regulation of filamentous growth	9
<i>OPI1</i> (orf19.1543)	Transcription factor, involved in regulation of filamentous growth	9
<i>PGA13</i> (orf19.6420)	GPI-anchored cell wall protein involved in cell wall synthesis. Mutation may cause delayed filamentation in certain strains. AA responsive gene	9,11
<i>PHO4</i> (orf19.1253)	Transcription factor, required for phosphate acquisition and stress resistance. Mutations may cause increased filamentous growth in certain strains	9
<i>PPR1</i> (orf19.3986)	Transcription factor, mutants have decreased hyphal growth in certain strains	9
<i>RBF1</i> (orf19.5558)	Transcription factor, mutation causes accelerated induction of filamentous growth	9
<i>RCA1</i> (orf19.6102)	Protein involved in regulation of carbonic anhydrases. mutation affects filamentous growth	9
<i>RFG1</i> (orf19.2823)	Transcriptional repressor of filamentous growth and hyphal genes. Possible AA responsive gene	9,11
<i>RFX2</i> (orf19.4590)	Transcriptional repressor, regulator of filamentation. AA responsive gene	9,11
<i>RIM101</i> (orf19.7247)	Transcription factor, required for alkaline-induced hyphal growth. Possible AA responsive gene	9,11
<i>RLM1</i> (orf19.4662)	Transcription factor, mutation causes decreased hyphal growth on lactate	9
<i>ROB1</i> (orf19.4998)	Transcription factor, mutant displays abnormal colony morphology (no peripheral hyphae) and invasive growth. Possible AA responsive gene	9,11
<i>RON1</i> (orf19.513)	Required for GlcNAc-induced hyphal growth	9
<i>RTG3</i> (orf19.2315)	Transcription factor, mutation causes decreased filamentous growth in certain strains	9
<i>SAP6</i> (orf19.5542)	Expressed during hyphal growth, involved in biofilm formation, AA responsive gene	9,11
<i>SEF1</i> (orf19.3753)	Transcription factor, regulates iron uptake. Mutation may decrease filamentation in certain strains.	9
<i>SET3</i> (orf19.7221)	NAD-dependent histone deacetylase, mutations affect filamentous growth. AA responsive gene	9,11
<i>SFL1</i> (orf19.454)	Transcription factor involved in negative regulation of morphogenesis. AA responsive gene	9,11
<i>SFL2</i> (orf19.3969)	Transcription factor involved in regulation of morphogenesis, required for filamentous growth	9
<i>SIN3</i> (orf19.6011)	Transposon mutation affects filamentous growth	9
<i>SKN7</i> (orf19.971)	Predicted response regulator protein. Mutation causes absence of hyphal formation in certain strains	9

<i>SKO1</i> (orf19.1032)	Transcription factor, represses the yeast-to-hypha transition	9
<i>SMI1</i> (orf19.5058)	Cell wall biosynthesis protein, Cyr1-induced in hyphal cells	9
<i>SNF4</i> (orf19.5768)	Putative subunit of the AMP-activated Snf1p kinase, transposon mutation affects filamentation	9
<i>SNF5</i> (orf19.5871)	Part of SWI/SNF complex which is essential for hyphal growth	9
<i>SNF6</i> (orf19.831)	Part of SWI/SNF complex which is essential for hyphal growth	9
<i>SNQ2</i> (orf19.5759)	Transporter, transposon mutation affects filamentation. AA responsive gene	9,11
<i>SPT3</i> (orf19.7622)	Homozygous null mutant is hyperfilamentous	9
<i>SPT6</i> (orf19.7136)	Putative transcription elongation factor, transposon mutation affects filamentous growth	9
<i>SPT20</i> (orf19.422)	Putative transcription factor, mutants have decreased hyphal and invasive growth	9
<i>SSN6</i> (orf19.6798)	Hyphal growth regulator, repressed during hyphal growth	9
<i>STD1</i> (orf19.6173)	Putative transcription factor, mutation causes increased filamentation	9
<i>STP2</i> (orf19.4961)	Amino-acid-regulated transcription factor. Mutation decreases filamentation	9
<i>SWI1</i> (orf19.5657)	Part of SWI/SNF complex which is essential for hyphal growth	9
<i>SWI4</i> (orf19.4545)	Putative component of the SBF transcription complex involved in G1/S cell-cycle progression, mutants have reduced peripheral filamentation	9
<i>TAC1</i> (orf19.3188)	Zn(2)-Cys(6) transcriptional activator of drug-responsive genes, mutation causes decreased hyphal formation in certain strains. AA responsive gene	9,11
<i>TCC1</i> (orf19.6734)	Putative transcription factor, regulation of filamentation and expression of hypha-specific genes	9
<i>TEA1</i> (orf19.6985)	Putative transcription factor, mutation may cause increased hyphal growth in certain strains	9
<i>TEC1</i> (orf19.5908)	Transcription factor involved in hyphal gene regulation. AA responsive gene	9,11
<i>TFG1</i> (orf19.4585)	Transposon mutation affects filamentous growth	9
<i>TUP1</i> (orf19.6109)	Transcriptional corepressor, represses filamentous growth, role in germ tube induction	9
<i>UME6</i> (orf19.1822)	Transcription factor that regulates filamentous growth	9
<i>WOR1</i> (orf19.4884)	Transcription factor ("master switch") of white-opaque phenotypic switching. Mutants have decreased biofilm formation in certain strains	9

<i>YOR1</i> (orf19.1783)	ABC-type plasma membrane transporter involved in resistance to aureobasidin A. Mutation causes a decrease in invasive growth. AA responsive gene	9,11
<i>ZCF3</i> (orf19.1168)	Transcription factor required for filamentous growth	9
<i>ZCF7</i> (orf19.1685)	Predicted transcription factor, mutation causes decreased colony wrinkling and hyphal formation.	9
<i>ZCF11</i> (orf19.2423)	Transcription factor required for wild-type filamentous growth	9
<i>ZCF14</i> (orf19.2647)	Putative transcription factor, mutants have decreased hyphal growth	9
<i>ZCF17</i> (orf19.3305)	Putative transcription factor, mutants have increased hyphal growth, but decreased invasive growth	9
<i>ZCF18</i> (orf19.3405)	Putative transcription factor, mutants have increased hyphal growth	9
<i>ZCF29</i> (orf19.5133)	Transcription factor, mutants have defects in filamentous growth	9
<i>ZCF32</i> (orf19.5940)	Transcription factor involved in regulation of biofilm formation	9
<i>ZNC1</i> (orf19.3187)	Transcription factor required for adherence and represses hyphal cell formation	9
Other processes		
Probe Name	Process/Description	References
<i>CDR1</i> (orf19.6000)	Multidrug transporter of ABC superfamily, transport phospholipids. AA responsive gene	9,11
<i>CDR2</i> (orf19.5958)	Multidrug transporter, ATP-binding cassette (ABC) superfamily, transports phospholipids. AA responsive gene	9,11
<i>DAL8</i> (orf19.5859)	Putative allantoate permease, fungal-specific, AA responsive gene	9,11
<i>EHT1</i> (orf19.3040)	Putative acyl-coenzymeA: ethanol O-acyltransferase. AA responsive gene	9,11
<i>ECM17</i> (orf19.4099)	Putative sulfite reductase beta subunit, role in cell wall biogenesis. AA responsive gene	9,11
<i>FAH2</i> orf19.2184	Putative fumarylacetoacetate hydrolase	9
<i>FLU1</i> (orf19.6577)	Multidrug efflux pump of the plasma membrane AA responsive gene	9,11
<i>HRD3</i> orf19.1191	Ortholog(s) have ubiquitin-protein transferase activity and role in negative regulation of protein autoubiquitination	9
<i>HSP12</i> (orf19.3160)	Decreased expression in hyphae. AA responsive gene	9,11
<i>IPT1</i> (orf19.4769)	Inositol phosphoryl transferase, catalyzes the synthesis of the most abundant sphingolipid. AA responsive gene	9,11
<i>MET4</i> (orf19.5312)	Putative transcription coactivator, predicted role in sulphur amino acid metabolism. AA responsive gene	9,11

<i>MDR1</i> (orf19.5604)	Plasma membrane MDR/MFS multidrug efflux pump. AA responsive gene	9,11
<i>PDR16</i> (orf19.1027)	Phosphatidylinositol transfer protein. AA responsive gene	9,11
<i>PST1</i> (orf19.2241)	Hyphal-induced. AA responsive gene	9,11
<i>RGT1</i> (orf19.4722)	Transcription factor, transcriptional repressor involved in the regulation of glucose transporter genes	9
<i>RTA3</i> (orf19.23)	7-transmembrane receptor protein involved in regulation of asymmetric lipid distribution in plasma membrane. AA responsive gene	9,11
<i>SUL2</i> (orf19.2738)	Putative sulfate transporter. AA responsive gene	9,11
<i>SUT1</i> (orf19.4342)	Transcription factor involved in sterol uptake. AA responsive gene	9,11
<i>TYE7</i> (orf19.4941)	Transcription factor, control of glycolysis. AA responsive gene	9,11
<i>UGA3</i> (orf19.7570)	Transcription factor, required for utilization of gamma-aminobutyrate	9
<i>UPC2</i> (orf19.391)	Transcription factor, regulates ergosterol biosynthesis	9
<i>YWP1</i> (orf19.3618)	Secreted yeast wall protein, involved in adhesion and biofilm formation. AA responsive gene	9,11

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