

Supplemental Table S1. Sequences of primers used for quantitative real-time as well as sizes and melting temperatures of amplicons. Primer sets were designed using Primer ExpressTM from Applied Biosystems. All used primers were obtained from DNA technology.

| Gene | Upstream primer (5'→3') | Downstream primer (5'→3') | T _M (°C) | Product size (bp) |
|--------|-----------------------------------|------------------------------------|------------------------|----------------------|
| ACT1 | GAA ACT TTC AAC GTT CCA GCC TT | AGG ACA AAA CGG CTT GGA TG | 79 | 52 |
| CHO1 | CGA AAA TGA CGG GTA TGC CT | CTT CTG CTT AAT GTG CCA CCA A | 79 | 51 |
| CHO2 | CTT TCA AAC CAC CTG TAA CCC AC | TTG GAT CGA AAA GCG AAC G | 79 | 51 |
| CKA2 | CTC CAT GGG CAT AAT GCA CA | TCA ATC ATG ACA TTC TGA GGC TTT | 78 | 51 |
| CTT1 | CGT TGG TGG TGA AAG TGG TAC A | ACA CCT CTT GGG TCT CTT GCA | 81 | 51 |
| DDR2 | CTG TCT TCG GCC TCG CTA CT | TGG TGT TGG ATG CGT TTT GA | 80 | 51 |
| ELO1 | TCG CTT CCA GCC AAA GGA T | CTC AAA GGC TGC TTC CCA AC | 80 | 51 |
| ERG11 | CGC TAA GTT GGC AGA TGT TTC AG | GTA GTC AAA TGA GCG TAA GCA GCT | 79 | 51 |
| FAS1 | CTT GCC AGG TAC TAT CAC GCA C | GCA CGG ACG GAA GCA GAA | 81 | 51 |
| FAS2 | ACC AGT TGA TGA CAA GGA CGT TAA G | TCT AGG ATT GAT GTT TCA TAC TTG GC | 76 | 51 |
| GPD1 | TCA AGG TTG CTA GGC TAA TGG C | CAC ATT CCC AGG CGT CCT TA | 80 | 51 |
| HSP12 | ACA AGG TCG CTG GTA AGG TTC A | CTT GGA AGA CAC CCT TGT TGT CT | 80 | 51 |
| HSP26 | GGA CCA TGA CAA CAA CTA CGA GTT | GCT TTT GAC ACC AGG AAC CAC | 79 | 52 |
| HSP104 | AGG ATT CTG GAT AGC GCC TTA GT | GTA ACG CTT GGC TAA TTG AGC A | 80 | 51 |
| INO1 | GCT GAG CAT GAG GGT ACA TTC A | TTG TCC CGA CTT GAG ATC GTC | 81 | 51 |
| INO2 | GTT ACC CAC AAA CAC AGC AGA TG | CCT TCC CTC GTG GTG AAC TC | 81 | 51 |
| INO4 | AGC GAT CCC GTA CAA GAA CAA | CTC CTT CGG TAC TAA ATC CCG AAT | 78 | 54 |
| OLE1 | TAG GTA AGG ACG CTA CCA AGG C | TTG AGT GAC GGT AGA CAC CAC C | 80 | 51 |
| OPI1 | CAA GCT GAA CAT GTC CAT CGA | TGC AAG CAC GTT ACA AGC CT | 79 | 51 |
| OPI3 | AAC AAC CCC ATG TAC CAG GGT | AAG GGC TAT GCC CAA GAA GG | 80 | 51 |
| PEP4 | GCT GAG GCT ACC AGC GAG C | CAT CGA ACT TGC CAA ATG CA | 82 | 52 |
| PIS1 | AGA CGG AAC CAT GGC AAG AA | ACG GCA CCC AGA CTG GAA | 80 | 51 |
| PSD1 | TTC AGC AAC GAC GCA GTT CT | CAG CAG CTT TGG CAC GAT C | 81 | 51 |
| PSD2 | AGG AAG GAC ACC ACG ACG AG | GGT ACC GCT GAG CTT CAA TTG | 79 | 52 |
| TDH1 | GTT TCC CAT GAC GAC AAG GA | GGT AGC GAT CTT GAC ACC ATC AA | 79 | 51 |
| HAC1 | CCC ACT CTG CGA CGA TAT AGC | ACC TGA CTG CGC TTC TGG AT | 79 | 91 |

Supplemental Table S2. A list of some of the most upregulated and downregulated genes obtained in response to Acb1p depletion. Fold- upregulation and downregulation of genes in response to Acb1p depletion are represented by positive- and negative values, respectively. Each value is an average of results obtained from two microarrays (dye reversal). Wild type and Acb1p depleted cells were grown in YPD media.

| GeneID | Gene | Function | Process | Fold change ^a ± S.D. |
|---|-------|---|--|---------------------------------|
| Stress response | | | | |
| ydr001c | NTH1 | neutral trehalase (alpha,alpha-trehalase) | response to stress; trehalose catabolism | 3.9 ± 0.83 |
| yll039c | UBI4 | ubiquitin | response to stress; protein deubiquitination; protein monoubiquitination; protein polyubiquitination | 3.6 ± 0.96 |
| ymr251w-a | HOR7 | hyperosmolarity-responsive protein | response to stress | 5.6 ± 1.3 |
| yol052c-a | DDR2 | heat shock protein DDRA2 | response to stress | 6.9 ± 0.71 |
| Lipid metabolism | | | | |
| ygl001c | ERG26 | C-3 sterol dehydrogenase (C-4 decarboxylase) | ergosterol biosynthesis | -1.6 ± 0.08 |
| ygl055w | OLE1 | stearoyl-CoA desaturase | fatty acid desaturation; mitochondrion inheritance | 1.9 ± 0.75 |
| ygr037c | ACB1 | acyl-coenzyme-A-binding protein(diazepam binding inhibitor) | fatty acid metabolism; long- chain fatty acid transport | -11.5 ± 2.5 |
| ygr177c | ATF2 | alcohol O-acetyltransferase | steroid metabolism | -1.7 ± 0.49 |
| yk1182w | FAS1 | fatty-acyl-CoA synthase, beta chain | fatty acid biosynthesis | 1.6 ± 0.25 |
| ylr056w | ERG3 | C-5 sterol desaturase | ergosterol biosynthesis | -1.9 ± 0.15 |
| ynr016c | ACC1 | acetyl-CoA carboxylase | fatty acid biosynthesis | 1.6 ± 0.33 |
| yp1028w | ERG10 | acetyl-CoA C-acetyltransferase, cytosolic | ergosterol biosynthesis | 1.6 ± 0.14 |
| yp1117c | IDI1 | isopentenyl-diphosphate delta-isomerase | ergosterol biosynthesis | 1.8 ± 0.72 |
| yp1170w | DAP1 | similarity to C.elegans LIM homeobox protein | sterol metabolism | 2.5 ± 0.37 |
| yp1231w | FAS2 | fatty-acyl-CoA synthase, alpha chain | fatty acid biosynthesis | 1.8 ± 0.17 |
| Protein sorting | | | | |
| ynl044w | YIP3 | protein of unknown function | ER to Golgi transport | 1.7 ± 0.35 |
| ynl263c | YIF1 | Slh1p Interacting Factor | ER to Golgi transport | 1.7 ± 0.12 |
| yor216c | RUD3 | suppressor of USO1-1 transport defect | ER to Golgi transport | -2.1 ± 0.18 |
| Proteolysis | | | | |
| yp1154c | PEP4 | aspartyl protease | vacuolar protein catabolism; cellular response to starvation; sporulation; microautophagy | 1.8 ± 0.14 |
| C-compound and Carbohydrate metabolism | | | | |
| ydl022w | GPD1 | glycerol-3-phosphate dehydrogenase (NAD+), cytoplasmic | intracellular accumulation of glycerol | 6.4 ± 1.8 |
| yjl052w | TDH1 | glyceraldehyde-3-phosphate dehydrogenase 1 | glycolysis; gluconeogenesis | 4.8 ± 0.16 |
| Sphingolipid/ceramide metabolism | | | | |
| yk1004w | AUR1 | aureobasidin-resistance protein | sphingolipid metabolism | 2.3 ± 0.68 |
| Transporters/permeases | | | | |
| ydr497c | ITR1 | myo-inositol permease, major | myo-inositol transport | 2.2 ± 0.16 |
| ygl077c | HNM1 | choline permease | choline transport | 2.4 ± 0.59 |
| ygl255w | ZRT1 | high-affinity zinc transport protein | high-affinity zinc ion transport | -2.8 ± 0.64 |
| ylr130c | ZRT2 | low affinity zinc transporter | low-affinity zinc ion transport | -1.8 ± 0.59 |
| ymr243c | ZRC1 | zinc- and cadmium resistance protein | zinc ion transport; cobalt ion transport; zinc ion homeostasis; glutathione metabolism | -1.7 ± 0.10 |
| ynl055c | POR1 | mitochondrial outer membrane porin | aerobic respiration; ion transport; mitochondrion organization and biogenesis | 2.2 ± 0.72 |
| Phospholipid metabolism | | | | |
| yer026c | CHO1 | CDP-diacylglycerol serine O-phosphatidyl-transferase | phosphatidylserine biosynthesis | 1.8 ± 0.24 |
| ygr157w | CHO2 | phosphatidylethanolamine N-methyltransferase | phosphatidylcholine biosynthesis | 1.8 ± 0.51 |
| yjr073c | OPI3 | methylene-fatty-acyl-phospholipid synthase | phosphatidylcholine biosynthesis | 2.9 ± 0.68 |
| Protein folding | | | | |
| ycl043c | PDI1 | protein disulfide-isomerase precursor | protein folding | 2.2 ± 0.17 |
| yjl034w | KAR2 | nuclear fusion protein | response to unfolded protein | 1.9 ± 0.98 |
| ylr350w | ORM2 | strong similarity to ORM1 | response to unfolded protein | 2.8 ± 0.43 |

^a Positive values correspond to gene expression that is negatively affected by *ACB1* (increased in Acb1p depleted cells). Negative values correspond to gene expression that is positively affected by *ACB1* (decreased in Acb1p depleted cells). S.D. indicates standard deviation of two independent experiments.

Supplementary data S3. Distribution of PI species in Y700 *pGAL-ACBI* and Y700 cells.

| Strain | Molecular species ¹ | | | | | | | |
|---|--------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|
| | 28:0 | 30:0 | 30:1 | 32:0 | 32:1 | 34:1 | 34:2 | 36:1 |
| <u><i>YPD media</i></u> | | | | | | | | |
| Y700 ² | 0.12 ± 0.03 | 0.20 ± 0.07 | 0.02 ± 0.01 | 1.28 ± 0.06 | 0.19 ± 0.02 | 3.40 ± 0.49 | 0.67 ± 0.002 | 1.15 ± 0.33 |
| Percent ³ | 1.6 ± 0.56 | 2.8 ± 1.18 | 0.3 ± 0.05 | 17.1 ± 1.02 | 2.6 ± 0.04 | 45.2 ± 1.64 | 9.0 ± 0.94 | 15.1 ± 2.77 |
| Y700 <i>pGAL-ACBI</i> ² | 0.82 ± 0.25 | 0.87 ± 0.13 | 0.43 ± 0.13 | 1.74 ± 0.26 | 1.24 ± 0.04 | 1.89 ± 0.19 | 1.68 ± 0.34 | 0.63 ± 0.01 |
| Percent ³ | 8.3 ± 2.89 | 8.8 ± 1.65 | 4.4 ± 1.51 | 17.6 ± 1.97 | 12.6 ± 0.10 | 19.1 ± 1.18 | 16.9 ± 2.74 | 6.3 ± 0.16 |
| | | | | | | | | |
| <u><i>SC media (+ ino.)</i>⁴</u> | | | | | | | | |
| Y700 ² | 0.18 ± 0.16 | 0.36 ± 0.33 | 0.04 ± 0.05 | 1.98 ± 1.55 | 0.38 ± 0.33 | 2.99 ± 2.42 | 0.49 ± 0.39 | 0.75 ± 0.58 |
| Percent ³ | 2.4 ± 0.27 | 4.5 ± 0.75 | 0.5 ± 0.25 | 26.9 ± 1.04 | 4.9 ± 0.44 | 40.2 ± 0.07 | 6.6 ± 0.16 | 10.3 ± 0.56 |
| Y700 <i>pGAL-ACBI</i> ² | 0.45 ± 0.37 | 0.44 ± 0.29 | 0.22 ± 0.16 | 1.11 ± 0.97 | 0.92 ± 0.64 | 1.17 ± 0.91 | 0.95 ± 0.69 | 0.27 ± 0.22 |
| Percent ³ | 7.5 ± 0.61 | 7.8 ± 0.94 | 3.8 ± 0.18 | 17.8 ± 2.95 | 16.2 ± 1.48 | 19.9 ± 0.37 | 16.5 ± 0.87 | 4.6 ± 0.19 |
| | | | | | | | | |
| <u><i>SC media (- ino.)</i>⁵</u> | | | | | | | | |
| Y700 ² | 0.05 ± 0.06 | 0.11 ± 0.08 | 0.01 ± 0.01 | 0.51 ± 0.46 | 0.06 ± 0.06 | 0.66 ± 0.63 | 0.07 ± 0.07 | 0.17 ± 0.19 |
| Percent ³ | 2.8 ± 0.57 | 7.4 ± 2.17 | 0.6 ± 0.01 | 31.3 ± 3.48 | 3.4 ± 0.003 | 37.8 ± 0.46 | 3.8 ± 0.31 | 8.1 ± 3.23 |
| Y700 <i>pGAL-ACBI</i> ² | 0.39 ± 0.41 | 0.61 ± 0.63 | 0.22 ± 0.23 | 0.74 ± 0.65 | 0.51 ± 0.45 | 0.66 ± 0.53 | 0.40 ± 0.37 | 0.18 ± 0.19 |
| Percent | 9.0 ± 2.25 | 14.6 ± 2.52 | 5.2 ± 1.14 | 19.8 ± 1.65 | 13.4 ± 0.78 | 18.9 ± 3.98 | 10.6 ± 0.46 | 4.1 ± 1.02 |

¹ Only molecular species constituting 3 % or more, in at least one of the used growth conditions, are shown.

² The ¹²C/¹³C ratio between ion counts for each individual ¹²C-species and one selected ¹³C-specie in each lipid class.

³ Percent that each species constitute of the total phospholipid class.

⁴ SC media supplemented with 0.2 mM inositol.

⁵ SC media without inositol.

Supplementary data S4. Distribution of PC species in Y700 *pGAL-ACBI* and Y700 cells.

| Strain | Molecular species ¹ | | | | | | | |
|---|--------------------------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|
| | 28:1 | 30:1 | 30:2 | 32:1 | 32:2 | 34:1 | 34:2 | 36:2 |
| <u><i>YPD media</i></u> | | | | | | | | |
| Y700 ² | 0.14 ± 0.01 | 0.20 ± 0.01 | 0.12 ± 0.02 | 0.53 ± 0.18 | 2.69 ± 0.12 | 0.44 ± 0.04 | 4.15 ± 0.26 | 0.89 ± 0.18 |
| Percent ³ | 1.5 ± 0.20 | 2.1 ± 0.01 | 1.2 ± 0.07 | 5.4 ± 1.48 | 28.0 ± 0.87 | 4.5 ± 0.11 | 43.1 ± 0.53 | 9.2 ± 1.20 |
| Y700 <i>pGAL-ACBI</i> ² | 0.31 ± 0.10 | 0.21 ± 0.07 | 0.54 ± 0.07 | 0.28 ± 0.11 | 3.71 ± 0.75 | 0.20 ± 0.02 | 3.30 ± 0.73 | 0.59 ± 0.21 |
| Percent ³ | 3.2 ± 0.37 | 2.2 ± 0.24 | 5.6 ± 0.52 | 2.8 ± 0.50 | 38.2 ± 0.70 | 2.1 ± 0.26 | 33.9 ± 0.01 | 6.0 ± 0.83 |
| <u><i>SC media (+ ino.)</i>⁴</u> | | | | | | | | |
| Y700 ¹ | 0.13 ± 0.09 | 0.12 ± 0.005 | 0.14 ± 0.08 | 0.40 ± 0.25 | 3.36 ± 1.43 | 0.32 ± 0.22 | 4.68 ± 2.31 | 0.40 ± 0.07 |
| Percent ³ | 1.2 ± 0.29 | 1.3 ± 0.59 | 1.4 ± 0.14 | 3.8 ± 0.69 | 34.3 ± 2.29 | 3.0 ± 0.77 | 46.9 ± 0.47 | 4.4 ± 1.39 |
| Y700 <i>pGAL-ACBI</i> ² | 0.23 ± 0.08 | 0.22 ± 0.12 | 0.45 ± 0.18 | 0.29 ± 0.12 | 3.80 ± 1.33 | 0.28 ± 0.33 | 3.12 ± 0.43 | 0.40 ± 0.01 |
| Percent ³ | 2.5 ± 0.16 | 2.3 ± 0.56 | 4.8 ± 0.50 | 3.1 ± 0.36 | 41.1 ± 1.58 | 2.6 ± 2.75 | 34.9 ± 6.23 | 4.6 ± 1.48 |
| <u><i>SC media (- ino.)</i>⁵</u> | | | | | | | | |
| Y700 ² | 0.16 ± 0.06 | 0.84 ± 0.59 | 0.07 ± 0.003 | 2.95 ± 0.87 | 2.94 ± 0.94 | 2.21 ± 0.96 | 3.31 ± 0.86 | 0.46 ± 0.20 |
| Percent ³ | 1.2 ± 0.03 | 5.8 ± 2.42 | 0.5 ± 0.20 | 22.0 ± 1.00 | 21.9 ± 0.49 | 16.1 ± 1.64 | 24.9 ± 2.08 | 3.3 ± 0.34 |
| Y700 <i>pGAL-ACBI</i> ² | 0.37 ± 0.07 | 0.60 ± 0.07 | 0.57 ± 0.06 | 1.14 ± 0.23 | 4.45 ± 1.22 | 0.58 ± 0.28 | 4.44 ± 0.41 | 0.58 ± 0.03 |
| Percent ³ | 2.8 ± 0.01 | 4.6 ± 0.37 | 4.3 ± 0.35 | 8.7 ± 0.13 | 33.5 ± 2.95 | 4.2 ± 1.34 | 33.9 ± 3.23 | 4.4 ± 0.63 |

¹ Only molecular species constituting 3 % or more, in at least one of the used growth conditions, are shown.

² The ¹²C/¹³C ratio between ion counts for each individual ¹²C-species and one selected ¹³C-specie in each lipid class.

³ Percent that each species constitute of the total phospholipid class.

⁴ SC media supplemented with 0.2 mM inositol.

⁵ SC media without inositol.

Supplementary data S5. Distribution of PE species in Y700 *pGAL-ACBI* and Y700 cells.

| Strain | Molecular species ¹ | | | | | | | |
|---|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 32:1 | 32:2 | 34:1 | 34:2 | 36:1 | 36:2 | 38:0 | 38:2 |
| <u><i>YPD media</i></u> | | | | | | | | |
| Y700 ² | 0.38 ± 0.04 | 0.61 ± 0.17 | 1.02 ± 0.11 | 3.28 ± 0.39 | 0.19 ± 0.08 | 1.39 ± 0.24 | 0.39 ± 0.54 | 0.15 ± 0.12 |
| Percent ³ | 5.0 ± 0.76 | 8.1 ± 2.62 | 13.5 ± 2.13 | 43.4 ± 7.5 | 2.4 ± 0.93 | 18.3 ± 2.15 | 5.0 ± 6.86 | 2.0 ± 1.41 |
| Y700 <i>pGAL-ACBI</i> ² | 0.60 ± 0.22 | 1.83 ± 0.69 | 0.66 ± 0.08 | 3.98 ± 0.38 | 0.08 ± 0.02 | 1.04 ± 0.32 | 0.65 ± 0.90 | 0.11 ± 0.08 |
| Percent ³ | 6.3 ± 2.33 | 19.2 ± 7.22 | 6.9 ± 0.85 | 41.7 ± 3.87 | 0.8 ± 0.26 | 10.9 ± 3.41 | 6.8 ± 9.45 | 1.2 ± 0.89 |
| <u><i>SC media (+ ino.)⁴</i></u> | | | | | | | | |
| Y700 ² | 0.42 ± 0.37 | 0.71 ± 0.63 | 0.82 ± 0.68 | 2.70 ± 2.13 | 0.17 ± 0.13 | 1.79 ± 1.63 | 0.65 ± 0.51 | 0.43 ± 0.28 |
| Percent ³ | 5.2 ± 0.29 | 8.6 ± 0.82 | 10.4 ± 0.02 | 34.4 ± 1.67 | 2.3 ± 0.22 | 21.5 ± 2.67 | 8.5 ± 0.63 | 6.1 ± 1.53 |
| Y700 <i>pGAL-ACBI</i> ² | 0.24 ± 0.16 | 0.75 ± 0.53 | 0.25 ± 0.28 | 2.07 ± 1.31 | 0.10 ± 0.10 | 1.02 ± 0.69 | 0.58 ± 0.32 | 0.34 ± 0.11 |
| Percent ³ | 4.2 ± 0.05 | 12.9 ± 1.03 | 3.6 ± 2.69 | 37.1 ± 0.95 | 1.6 ± 0.69 | 18.0 ± 0.42 | 10.8 ± 1.42 | 6.9 ± 2.61 |
| <u><i>SC media (- ino.)⁵</i></u> | | | | | | | | |
| Y700 ² | 0.52 ± 0.47 | 0.42 ± 0.29 | 1.08 ± 0.83 | 1.74 ± 1.20 | 0.44 ± 0.35 | 0.83 ± 0.64 | 0.40 ± 0.19 | 0.27 ± 0.11 |
| Percent ³ | 7.9 ± 2.14 | 7.1 ± 0.27 | 17.6 ± 1.14 | 29.5 ± 1.07 | 7.2 ± 0.72 | 13.6 ± 1.05 | 7.4 ± 2.12 | 5.2 ± 1.88 |
| Y700 <i>pGAL-ACBI</i> ² | 0.60 ± 0.54 | 1.06 ± 1.11 | 0.91 ± 0.86 | 2.83 ± 2.43 | 0.32 ± 0.29 | 1.36 ± 1.05 | 0.77 ± 0.49 | 0.42 ± 0.18 |
| Percent ³ | 5.2 ± 1.37 | 10.7 ± 4.16 | 7.0 ± 2.16 | 34.0 ± 3.48 | 2.7 ± 0.93 | 17.9 ± 0.54 | 11.0 ± 1.69 | 6.7 ± 2.20 |

¹ Only molecular species constituting 3 % or more, in at least one of the used growth conditions, are shown.

² The ¹²C/¹³C ratio between ion counts for each individual ¹²C-species and one selected ¹³C-specie in each lipid class.

³ Percent that each species constitute of the total phospholipid class.

⁴ SC media supplemented with 0.2 mM inositol.

⁵ SC media without inositol.

Supplementary data S6. Distribution of PG species in Y700 *pGAL-ACBI* and Y700 cells.

| Strain | Molecular species ¹ | | | | | | | |
|---|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 28:0 | 30:1 | 32:1 | 32:2 | 34:1 | 34:2 | 36:1 | 36:2 |
| <u><i>YPD media</i></u> | | | | | | | | |
| Y700 ² | 0.12 ± 0.08 | 0.18 ± 0.08 | 1.41 ± 0.66 | 0.56 ± 0.03 | 4.21 ± 0.33 | 1.75 ± 0.03 | 0.44 ± 0.11 | 0.45 ± 0.11 |
| Percent ³ | 1.2 ± 0.64 | 1.8 ± 0.51 | 14 ± 4.72 | 5.8 ± 0.54 | 43.2 ± 3.00 | 18.0 ± 2.33 | 4.5 ± 0.50 | 4.5 ± 0.43 |
| Y700 <i>pGAL-ACBI</i> ² | 0.16 ± 0.08 | 0.46 ± 0.06 | 1.07 ± 0.10 | 1.18 ± 0.08 | 1.32 ± 0.27 | 1.77 ± 0.18 | 0.19 ± 0.05 | 0.69 ± 0.10 |
| Percent ³ | 2.0 ± 1.07 | 5.8 ± 1.15 | 13.2 ± 0.39 | 14.5 ± 0.02 | 16.5 ± 4.42 | 21.8 ± 0.79 | 2.4 ± 0.48 | 8.5 ± 0.69 |
| <hr/> | | | | | | | | |
| <u><i>SC media (+ ino.)⁴</i></u> | | | | | | | | |
| Y700 ² | 0.28 ± 0.15 | 0.53 ± 0.58 | 2.21 ± 2.46 | 1.38 ± 1.72 | 4.14 ± 4.30 | 2.09 ± 2.24 | 0.44 ± 0.50 | 0.59 ± 0.52 |
| Percent ³ | 3.4 ± 2.46 | 3.9 ± 0.29 | 15.4 ± 2.48 | 8.1 ± 4.53 | 31.8 ± 0.78 | 15.4 ± 0.80 | 2.9 ± 0.71 | 5.3 ± 1.62 |
| Y700 <i>pGAL-ACBI</i> ² | 0.11 ± 0.11 | 0.20 ± 0.24 | 0.57 ± 0.80 | 0.51 ± 0.55 | 1.35 ± 1.36 | 0.95 ± 0.62 | 0.16 ± 0.14 | 0.30 ± 0.01 |
| Percent ³ | 2.0 ± 0.14 | 3.1 ± 1.65 | 6.4 ± 9.08 | 8.8 ± 1.99 | 24.8 ± 1.86 | 22.9 ± 10.3 | 3.0 ± 0.17 | 10.8 ± 10.7 |
| <hr/> | | | | | | | | |
| <u><i>SC media (- ino.)⁵</i></u> | | | | | | | | |
| Y700 ² | 0.84 ± 0.82 | 0.84 ± 0.68 | 7.34 ± 5.28 | 1.10 ± 1.03 | 11.5 ± 8.91 | 2.43 ± 1.22 | 0.43 ± 0.33 | 1.18 ± 0.40 |
| Percent ³ | 2.6 ± 1.02 | 2.9 ± 0.34 | 26.4 ± 0.33 | 3.6 ± 1.08 | 40.1 ± 2.66 | 9.7 ± 2.67 | 1.5 ± 0.07 | 6.4 ± 6.11 |
| Y700 <i>pGAL-ACBI</i> ² | 0.52 ± 0.62 | 1.26 ± 1.30 | 2.62 ± 2.09 | 2.88 ± 3.10 | 4.11 ± 3.24 | 4.00 ± 2.99 | 0.43 ± 0.46 | 1.27 ± 0.29 |
| Percent ³ | 2.1 ± 1.66 | 5.9 ± 2.25 | 14.2 ± 0.23 | 13.0 ± 6.19 | 22.4 ± 0.67 | 22.3 ± 1.87 | 2.0 ± 0.87 | 11.1 ± 10.5 |

¹ Only molecular species constituting 3 % or more, in at least one of the used growth conditions, are shown.

² The ¹²C/¹³C ratio between ion counts for each individual ¹²C-species and one selected ¹³C-specie in each lipid class.

³ Percent that each species constitute of the total phospholipid class.

⁴ SC media supplemented with 0.2 mM inositol.

⁵ SC media without inositol.

Supplementary data S7. Distribution of PS species in Y700 *pGAL-ACBI* and Y700 cells.

| Strain | Molecular species ¹ | | | | | | | |
|---|--------------------------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|
| | 28:0 | 28:2 | 32:1 | 32:2 | 34:1 | 34:2 | 38:1 | 38:2 |
| <u><i>YPD media</i></u> | | | | | | | | |
| Y700 ² | 0.08 ± 0.006 | 0.28 ± 0.02 | 0.63 ± 0.11 | 0.26 ± 0.05 | 3.30 ± 0.06 | 2.47 ± 0.05 | 0.09 ± 0.06 | 0.16 ± 0.17 |
| Percent ³ | 1.0 ± 0.02 | 3.5 ± 0.09 | 7.9 ± 0.90 | 3.3 ± 0.43 | 41.6 ± 1.64 | 31.2 ± 1.07 | 1.1 ± 0.65 | 1.9 ± 2.04 |
| Y700 <i>pGAL-ACBI</i> ² | 0.16 ± 0.06 | 0.10 ± 0.01 | 0.72 ± 0.17 | 0.75 ± 0.17 | 1.15 ± 0.18 | 2.30 ± 0.07 | 0.07 ± 0.01 | 0.10 ± 0.03 |
| Percent ³ | 2.7 ± 1.20 | 1.6 ± 0.05 | 11.6 ± 1.67 | 12.1 ± 1.70 | 18.6 ± 1.20 | 37.2 ± 2.13 | 1.1 ± 0.33 | 1.6 ± 0.36 |
| <hr/> | | | | | | | | |
| <u><i>SC media (+ ino.)⁴</i></u> | | | | | | | | |
| Y700 ² | 0.22 ± 0.09 | 0.57 ± 0.45 | 0.76 ± 0.62 | 0.29 ± 0.17 | 2.06 ± 1.33 | 1.48 ± 1.07 | 0.18 ± 0.06 | 0.57 ± 0.28 |
| Percent ³ | 3.3 ± 0.45 | 7.9 ± 2.26 | 10.3 ± 3.53 | 4.3 ± 0.10 | 29.6 ± 3.37 | 20.8 ± 4.34 | 3.3 ± 2.68 | 11.4 ± 10.5 |
| Y700 <i>pGAL-ACBI</i> ² | 0.18 ± 0.10 | 0.18 ± 0.11 | 0.42 ± 0.21 | 0.02 ± 0.003 | 1.30 ± 0.30 | 0.01 ± 0.01 | 0.26 ± 0.08 | 0.55 ± 0.14 |
| Percent ³ | 3.9 ± 1.11 | 3.9 ± 1.36 | 9.0 ± 2.21 | 9.9 ± 2.32 | 11.9 ± 5.10 | 29.5 ± 1.79 | 6.3 ± 3.49 | 13.2 ± 6.83 |
| <hr/> | | | | | | | | |
| <u><i>SC media (- ino.)⁵</i></u> | | | | | | | | |
| Y700 ² | 0.22 ± 0.11 | 0.82 ± 0.82 | 1.53 ± 1.52 | 0.37 ± 0.34 | 2.63 ± 2.43 | 1.85 ± 1.68 | 0.22 ± 0.09 | 0.45 ± 0.32 |
| Percent ³ | 2.9 ± 1.05 | 8.3 ± 2.82 | 15.4 ± 5.13 | 3.9 ± 0.81 | 27.9 ± 5.62 | 19.7 ± 3.61 | 4.2 ± 4.41 | 9.6 ± 11.3 |
| Y700 <i>pGAL-ACBI</i> ² | 0.32 ± 0.14 | 0.46 ± 0.43 | 1.43 ± 1.10 | 1.17 ± 1.11 | 1.60 ± 0.92 | 3.13 ± 2.76 | 0.22 ± 0.06 | 0.63 ± 0.39 |
| Percent ³ | 3.5 ± 1.06 | 4.0 ± 1.44 | 13.3 ± 1.54 | 9.9 ± 3.87 | 16.3 ± 2.31 | 27.6 ± 7.71 | 3.0 ± 2.65 | 9.7 ± 10.4 |

¹ Only molecular species constituting 3 % or more, in at least one of the used growth conditions, are shown.

² The ¹²C/¹³C ratio between ion counts for each individual ¹²C-species and one selected ¹³C-specie in each lipid class.

³ Percent that each species constitute of the total phospholipid class.

⁴ SC media supplemented with 0.2 mM inositol.

⁵ SC media without inositol.

Supplementary data S8. Distribution of PA species in Y700 *pGAL-ACBI* and Y700 cells.

| Strain | Molecular species ¹ | | | | | | | |
|--|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 28:1 | 30:1 | 32:1 | 32:2 | 34:1 | 34:2 | 36:1 | 36:2 |
| <u><i>YPD media</i></u> | | | | | | | | |
| Y700 ² | 0.16 ± 0.05 | 0.52 ± 0.30 | 1.73 ± 1.10 | 1.29 ± 1.15 | 5.55 ± 0.05 | 5.85 ± 0.16 | 1.29 ± 0.06 | 1.86 ± 0.16 |
| Percent ³ | 0.8 ± 0.18 | 2.5 ± 1.25 | 8.5 ± 4.63 | 6.3 ± 5.13 | 28.5 ± 3.59 | 30.0 ± 4.32 | 6.6 ± 0.47 | 9.6 ± 1.91 |
| <u><i>pGAL-ACBI</i></u> | | | | | | | | |
| <i>pGAL-ACBI</i> ² | 0.09 ± 0.12 | 0.26 ± 0.02 | 1.38 ± 0.44 | 2.06 ± 0.46 | 2.69 ± 0.13 | 8.35 ± 0.27 | 0.44 ± 0.11 | 1.88 ± 0.53 |
| Percent ³ | 0.5 ± 0.61 | 1.4 ± 0.16 | 7.5 ± 2.60 | 11.2 ± 2.78 | 14.5 ± 1.10 | 45.0 ± 0.18 | 2.3 ± 0.51 | 10.1 ± 2.56 |
| <u><i>SC media (+ ino.)</i></u> ⁴ | | | | | | | | |
| Y700 ² | 0.60 ± 0.68 | 0.58 ± 0.27 | 2.48 ± 1.85 | 1.50 ± 0.63 | 3.78 ± 2.37 | 3.78 ± 1.91 | 0.71 ± 0.30 | 0.43 ± 0.10 |
| Percent ³ | 3.0 ± 2.80 | 3.6 ± 0.01 | 14.1 ± 4.99 | 9.3 ± 0.35 | 22.2 ± 4.51 | 22.9 ± 1.39 | 4.4 ± 0.12 | 2.8 ± 0.67 |
| <u><i>pGAL-ACBI</i></u> | | | | | | | | |
| <i>pGAL-ACBI</i> ² | 0.77 ± 0.35 | 0.60 ± 0.40 | 1.43 ± 0.81 | 1.84 ± 1.31 | 1.18 ± 0.95 | 3.89 ± 2.78 | 0.23 ± 0.07 | 1.00 ± 0.55 |
| Percent ³ | 5.9 ± 0.49 | 4.3 ± 0.68 | 10.5 ± 0.52 | 12.9 ± 2.97 | 8.0 ± 2.89 | 27.3 ± 6.31 | 1.9 ± 0.47 | 7.4 ± 0.18 |
| <u><i>SC media (- ino.)</i></u> ⁵ | | | | | | | | |
| Y700 ² | 0.14 ± 0.03 | 0.47 ± 0.43 | 3.15 ± 2.41 | 1.10 ± 0.58 | 4.81 ± 3.45 | 2.79 ± 1.75 | 0.43 ± 0.12 | 0.06 ± 0.03 |
| Percent ³ | 1.2 ± 0.59 | 2.9 ± 1.17 | 21.1 ± 3.40 | 8.1 ± 1.16 | 32.9 ± 3.23 | 19.8 ± 0.33 | 3.4 ± 1.33 | 0.5 ± 0.13 |
| <u><i>pGAL-ACBI</i></u> | | | | | | | | |
| <i>pGAL-ACBI</i> ² | 1.13 ± 0.51 | 0.95 ± 0.67 | 1.83 ± 0.40 | 2.45 ± 1.47 | 1.80 ± 0.98 | 4.16 ± 2.22 | 0.55 ± 0.34 | 0.07 ± 0.09 |
| Percent ³ | 7.1 ± 0.35 | 5.5 ± 1.41 | 12.2 ± 3.52 | 14.8 ± 1.84 | 11.0 ± 0.68 | 25.5 ± 1.22 | 3.3 ± 0.50 | 0.3 ± 0.43 |

¹ Only molecular species constituting 3 % or more, in at least one of the used growth conditions, are shown.

² The ¹²C/¹³C ratio between ion counts for each individual ¹²C-species and one selected ¹³C-specie in each lipid class.

³ Percent that each species constitute of the total phospholipid class.

⁴ SC media supplemented with 0.2 mM inositol.

⁵ SC media without inositol.