

Supplementary Materials

A

S. pombe

Lac1
Lag1

1 10 20 30 40 50 60 70 80 90 100 110 120

130 140 150 160 170 180 190 200 210 220 230 240 250 260

270 280 290 300 310 320 330 340 350 360 370 380

B

LAC1 (37.7% identical residues)

1 10 20 30 40 50 60

S. pombe MGNNTSRSSQSQFKNISGSGS..... SSMPPVQHRGRRRRSKST..... VGRACNAVLRSKETWIDPL
S. cerevisiae MSTIKPSPSNLNKYSRFRKSGIKERDLCDIVPSLGIMERKESKTAARRRMQRSEATKNDSDLVKKIWFSEISYRHWIAPL

70 80 90 100 110 120 130 140 150

S. pombe ILLLVGVYVFNNGYIK..YGHFISYPIPGTNPAGYCKRLDAFGIYALFPTFREFFIMQETIARIGRTFNTRAPALRRFEPQVYT
S. cerevisiae ILFAYSAVYSCNTTKINVLHRTAVSYQIGDINAYCKGINDLCGVFYMIPTFREFFIMDVIRPFALHLVTSKHSIRIMSCQVYA

160 170 180 190 200 210 220 230 240

S. pombe CLFVFMGCGFYVWQGFVFFNDAFEEVVFVHYVGSFHSYILCAAHWQQAHPHLLQLEKPRKQERCLVVRHIFDLILLCLVYV
S. cerevisiae IFVTCGCGPGLICVTHDEFFNDAFWRTYQGFNFPLFKQVYGGCAAHWQQAHPHLLQLEKPRKQHNLITFHHIDLLHWSVYV

250 260 270 280 290 300 310 320 330

S. pombe HFTWGLAVITMDHSDIWLALSKCLNYNTVIVVPIPIFVFIWYRRHYNGKINAVWGTMRNTNSFDLDALQYKCNISRDVTL
S. cerevisiae HFTKGLPIITMDHSDFLSFSKTLNVDGLAFSFAITVVWIYRRHYNGKINAVWGTMRNTNSFDLDALQYKCNISLPLVVFV

340 350 360 370 380

S. pombe LIALQIVNYWIFLTLRGYRFTINDTFRDSRSDDEVSDEKSSAKKND.....
S. cerevisiae LIALQIVNYWIFLTLRGYRLNRGILFRDSRSDDEVSDEKSSHTPTDSTPTKKDI

LAC1 (29.5% identical residues)

1 10 20 30 40 50 60 70

S. pombe MNRKADEKHHMSSSSITNDRSYIRNNSRRTSSRKRVITRTET.....PSNFVKDQTKLVQAFFLVWQKEIC.....SI
S. cerevisiae MISTADKSID...RLVNAKTRRANSVGGIDLDGTVFGFAAMPSSAASKNEAKRRKALCDKKSDSLWKKVWFYSYRINRHSWLTFF

80 90 100 110 120 130 140 150 160

S. pombe AILC.ACLLSPSLPEYAE...FHSYKQDGGSYKCKDNCDFVYVFAAFVLMVVERPFVNWGVNRRVIRFCQQQSEFY
S. cerevisiae ILVCVYSAYFLSGNATESRLHMAIASVQVDGTDSYKCKDNCDFVYVFAAFVLMVVERPFVNWGVNRRVIRFCQQQSEFY

170 180 190 200 210 220 230 240 250

S. pombe YLCFFWFGLYIYRSNNYSNE.EKIFEDYFOYMSFPAFYVLIHQGFHQQQL..VHLEORRADHNOVFABHIVCLHLLSYGNLRVKG
S. cerevisiae CGVSGPFGLYIMYHSDIWLFKTKPMYRTFVITNPFDFRIYVGOAFWQQACVLVLEKPRRDYKSVFBBIVLLEWSSYVSHITKMC

260 270 280 290 300 310 320 330 340

S. pombe NALYIFSDTILSGGRMYVIGFGKICDTLFCIFVASHVSRHYDFSRILRVVNNAPEIIGCHDVPFGYIFNKPTVAFITHTFTQ
S. cerevisiae LAIVITMDGDFLSLKRITNYNS.VFTPFVFGFVFFWYRRHYVNIILINSVHREFRH.EGNYVNFALQCKCNISLHVFVDAADQ

350 360 370 380 390

S. pombe LLIYWFGLIKVAYRDFSGEATDRSDDE...GRDEASSTNOK
S. cerevisiae LNLVWLFTHRIYRINQGIQDRSDSDESASNSSEKKEC..

C

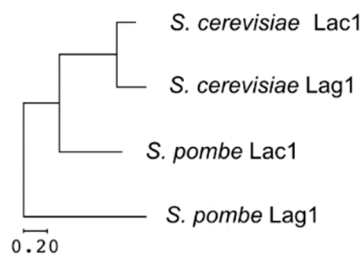


Figure S1. (A) Upper panel: sequence alignment between Lac1 subunits in fission and budding yeast. Lower panel: sequence alignment between the Lag1 subunits in fission and budding yeast. (B) Sequence alignment between ceramide synthase subunits in *S. pombe*, Lac1 and Lag1. White characters on red boxes denote identical residues, and red characters on white boxes denote conserved residues. (C) A phylogenetic tree using maximum-likelihood statistical method. Horizontal lines are proportional to the substitution rate. The bar represents 0.20 changes per amino acid. In panels A and B, white characters on red boxes denote identical residues, and red characters on white boxes denote conserved residues.

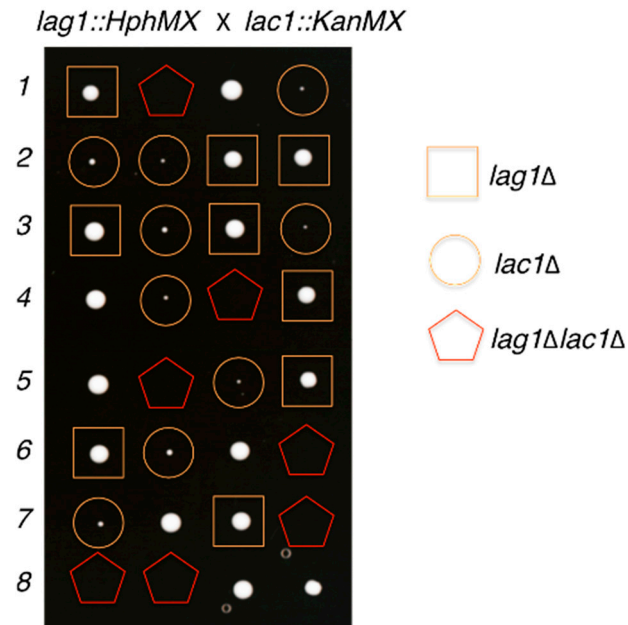


Figure S2. Deletion of Lac1 and Lag1 in *S. pombe* is lethal. Tetrad analysis of the indicated strains in Yes media at 25 °C.