

Manjithaya et al., <http://www.jcb.org/cgi/content/full/jcb.200911149/DC1>

Table S1. Strains used in this study

Name	Description	Genotype	Source
PPY12	WT	<i>his4 arg4</i>	Gould et al., 1992
GS115	WT	<i>his4</i>	Cregg et al., 1985
R8	<i>atg11Δ</i>	GS115 <i>atg11Δ::zeocin^r his4</i>	Kim et al., 2001
R12	<i>atg1Δ</i>	GS115 <i>atg1Δ::zeocin^r his4</i>	Strømhaug et al., 2001
R19	<i>atg9Δ</i>	GS115 <i>atg9Δ::zeocin^r his4</i>	Strømhaug et al., 2001
SEW1	<i>pex3Δ</i>	PPY12 <i>pex3Δ::ARG4 his4 arg4</i>	Wiemer et al., 1996
SMD1163	<i>pep4Δ/prB1Δ</i>	<i>pep4 prB1 his4</i>	Tuttle and Dunn, 1995
SRRM184	<i>acb1Δ</i>	PPY12 <i>acb1Δ::geneticin^r his4 arg4</i>	This study
SRRM192	<i>grh1Δ</i>	PPY12 <i>grh1Δ::geneticin^r his4 arg4</i>	This study
SRDM006	<i>atg6Δ</i>	PPY12 <i>atg6Δ::geneticin^r his4 arg4</i>	Lab stock
SJCF257	<i>atg8Δ</i>	PPY12 <i>atg8Δ::Geneticin^r his4 arg4</i>	Farré et al., 2008
SJCF929	<i>atg17Δ</i>	PPY12 <i>atg17Δ::Geneticin^r his4 arg4</i>	Nazarko et al., 2009
Pdg3D	<i>atg26Δ</i>	GS200 <i>atg26Δ::ARG4 his4 arg4</i>	Stasyk et al., 2003
SJCF44	<i>atg30Δ</i>	PPY12 <i>atg30Δ::zeocin^r his4 arg4</i>	Farré et al., 2008
WDY53	<i>vac8Δ</i>	PPF1 <i>vac8Δ::zeocin^r arg4 his4</i>	Chang et al., 2005
SRDM050	<i>vam7Δ</i>	PPY12 <i>vam7Δ::zeocin^r his4 arg4</i>	Lab stock
SRDM122	<i>vps17Δ</i>	PPY12 <i>vps17Δ::geneticin^r his4 arg4</i>	Lab stock
SRRM197	<i>ypt7Δ</i>	PPY12 <i>ypt7Δ::geneticin^r his4 arg4</i>	This study
PPY115	<i>pex5Δ</i>	PPY12 <i>pex5Δ::ARG4 his4 arg4</i>	McCollum et al., 1993
Lab stock	<i>pex7Δ</i>	PPY12 <i>pex7Δ::ARG4 his4 arg4</i>	Elgersma et al., 1998
JC121	<i>pex8Δ</i>	GS200 <i>pex8Δ::ARG4 his4 arg4</i>	Liu et al., 1995
SMY278	<i>pex11Δ</i>	PPY12 <i>pex11Δ::zeocin^r his4 arg4</i>	Yan et al., 2008
SSEB3	<i>pex20Δ</i>	PPY12 <i>pex20Δ::geneticin^r his4 arg4</i>	Leon et al., 2006
STK10	<i>pox1Δ</i>	PPY12 <i>pox1Δ::zeocin^r his4 arg4</i>	Koller et al., 1999
Lab Stock	<i>pot1Δ</i>	PPY12 <i>fox3Δ::ARG4 his4 arg4</i>	Elgersma et al., 1998
SRRM199	<i>faa2Δ</i>	PPY12 <i>faa2Δ::geneticin^r his4 arg4</i>	This study
SRRM167	<i>spo14Δ</i>	PPY12 <i>spo14Δ::zeocin^r his4 arg4</i>	This study

WT, wild type. Superscript r indicates resistant.

References

- Chang, T., L.A. Schroder, J.M. Thomson, A.S. Klocman, A.J. Tomasini, P.E. Strømhaug, and W.A. Dunn Jr. 2005. *PpATG9* encodes a novel membrane protein that traffics to vacuolar membranes, which sequester peroxisomes during pexophagy in *Pichia pastoris*. *Mol. Biol. Cell.* 16:4941–4953. doi:10.1091/mbc.E05-02-0143
- Cregg, J.M., K.J. Barringer, A.Y. Hessler, and K.R. Madden. 1985. *Pichia pastoris* as a host system for transformations. *Mol. Cell. Biol.* 5:3376–3385.
- Elgersma, Y., M. Elgersma-Hooisma, T. Wenzel, J.M. McCaffery, M.G. Farquhar, and S. Subramani. 1998. A mobile PTS2 receptor for peroxisomal protein import in *Pichia pastoris*. *J. Cell Biol.* 140:807–820. doi:10.1083/jcb.140.4.807
- Farré, J.C., R. Manjithaya, R.D. Mathewson, and S. Subramani. 2008. PpAtg30 tags peroxisomes for turnover by selective autophagy. *Dev. Cell.* 14:365–376. doi:10.1016/j.devcel.2007.12.011
- Gould, S.J., D. McCollum, A.P. Spong, J.A. Heyman, and S. Subramani. 1992. Development of the yeast *Pichia pastoris* as a model organism for a genetic and molecular analysis of peroxisome assembly. *Yeast.* 8:613–628. doi:10.1002/yea.320080805
- Kim, J., Y. Kamada, P.E. Stromhaug, J. Guan, A. Hefner-Gravink, M. Baba, S.V. Scott, Y. Ohsumi, W.A. Dunn Jr., and D.J. Klionsky. 2001. Cvt9/Gsa9 functions in sequestering selective cytosolic cargo destined for the vacuole. *J. Cell Biol.* 153:381–396. doi:10.1083/jcb.153.2.381
- Koller, A., A.P. Spong, G.H. Lüers, and S. Subramani. 1999. Analysis of the peroxisomal acyl-CoA oxidase gene product from *Pichia pastoris* and determination of its targeting signal. *Yeast.* 15:1035–1044. doi:10.1002/(SICI)1097-0061(199908)15:11<1035::AID-YEA432>3.0.CO;2-1
- Léon, S., L. Zhang, W.H. McDonald, J. Yates III, J.M. Cregg, and S. Subramani. 2006. Dynamics of the peroxisomal import cycle of PpPex20p: ubiquitin-dependent localization and regulation. *J. Cell Biol.* 172:67–78. doi:10.1083/jcb.200508096
- Liu, H., X. Tan, K.A. Russell, M. Veenhuis, and J.M. Cregg. 1995. *PER3*, a gene required for peroxisome biogenesis in *Pichia pastoris*, encodes a peroxisomal membrane protein involved in protein import. *J. Biol. Chem.* 270:10940–10951. doi:10.1074/jbc.270.18.10940
- McCollum, D., E. Monosov, and S. Subramani. 1993. The *pas8* mutant of *Pichia pastoris* exhibits the peroxisomal protein import deficiencies of Zellweger syndrome cells—the PAS8 protein binds to the COOH-terminal tripeptide peroxisomal targeting signal, and is a member of the TPR protein family. *J. Cell Biol.* 121:761–774. doi:10.1083/jcb.121.4.761
- Nazarko, T.Y., J.C. Farre, and S. Subramani. 2009. Peroxisome size provides insights into the function of autophagy-related proteins. *Mol. Biol. Cell.* 20:3828–3829.
- Stasyk, O.V., T.Y. Nazarko, O.G. Stasyk, O.S. Krasovska, D. Warnecke, J.M. Nicaud, J.M. Cregg, and A.A. Sibirny. 2003. Sterol glucosyltransferases have different functional roles in *Pichia pastoris* and *Yarrowia lipolytica*. *Cell Biol. Int.* 27:947–952. doi:10.1016/j.cellbi.2003.08.004
- Strømhaug, P.E., A. Bevan, and W.A. Dunn Jr. 2001. *GSA11* encodes a unique 208-kDa protein required for pexophagy and autophagy in *Pichia pastoris*. *J. Biol. Chem.* 276:42422–42435. doi:10.1074/jbc.M104087200
- Tuttle, D.L., and W.A. Dunn Jr. 1995. Divergent modes of autophagy in the methylotrophic yeast *Pichia pastoris*. *J. Cell Sci.* 108:25–35.
- Wiemer, E.A., G.H. Lüers, K.N. Faber, T. Wenzel, M. Veenhuis, and S. Subramani. 1996. Isolation and characterization of Pas2p, a peroxisomal membrane protein essential for peroxisome biogenesis in the methylotrophic yeast *Pichia pastoris*. *J. Biol. Chem.* 271:18973–18980. doi:10.1074/jbc.271.31.18973
- Yan, M., D.A. Rachubinski, S. Joshi, R.A. Rachubinski, and S. Subramani. 2008. Dysferlin domain-containing proteins, Pex30p and Pex31p, localized to two compartments, control the number and size of oleate-induced peroxisomes in *Pichia pastoris*. *Mol. Biol. Cell.* 19:885–898. doi:10.1091/mbc.E07-10-1042