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## Yeast

Yeast continues to be an exceptional eukaryotic model for many key conserved molecular mechanisms including genomic regulation, cell cycle, energy metabolism and signaling. Track yeast over multiple generations while maintaining a single focal plane using specialized yeast microfluidic plates on the ONIX2 system.

1. Kabeche R, Howard L, Moseley JB. Eisosomes provide membrane reservoirs for rapid expansion of the yeast plasma membrane. *J. Cell Sci.*, Nov 2015; 128: 4057-4062.  
<http://www.ncbi.nlm.nih.gov/pubmed/26403204>
2. Kabeche R, Madrid M, Cansado J, Moseley JB. Eisosomes Regulate Phosphatidylinositol 4,5-Bisphosphate (PI(4,5)P2) Cortical Clusters and Mitogen-activated Protein (MAP) Kinase Signaling upon Osmotic Stress. *J. Biol. Chem.*, Oct 2015; 290: 25960 - 25973.  
<http://www.ncbi.nlm.nih.gov/pubmed/26359496>
3. Peroza EA, Ewald JC, Parakkal G, Skotheim JM, Zamboni N; A genetically encoded FRET sensor for monitoring *in vivo* trehalose-6-phosphate dynamics; *Analytical Biochemistry* 2015, Apr 1; 474:1-7. doi:10.1016/j.ab.2014.12.019  
<http://www.ncbi.nlm.nih.gov/pubmed/25582303>
4. Durandau E, Aymoz D, Pelet S; Dynamic single cell measurements of kinase activity by synthetic kinase activity relocation sensors; *BMC Biology* 2015, 13:55; DOI 10.1186/s12915-015-0163-z  
<http://www.ncbi.nlm.nih.gov/pubmed/26231587>
5. Schmidt-Glenewinkel H, Barkai N; Loss of growth homeostasis by genetic decoupling of cell division from biomass growth: implication for size control mechanisms; *Molecular Systems Biology* Volume 10, Issue 12, December 2014; DOI: 10.15252/msb.20145513  
<http://www.ncbi.nlm.nih.gov/pubmed/25538138/>
6. Tien JF, Umbreit NT, Zelter A, Riffle M, Hoopmann MR, Johnson RS, Fonslow BR, Yates III JR, MacCoss MJ, Moritz RL, Asbury CL, Davis TN; Kinetochore Biorientation in *Saccharomyces cerevisiae* Requires a Tightly Folded Conformation of the Ndc80 Complex; *Genetics* December 1, 2014 vol. 198 no. 4 1483-1493;doi:10.1534/genetics.114.167775  
<http://www.ncbi.nlm.nih.gov/pubmed/25230952>
7. Ren L, Willet AH, Roberts-Galbraith RH, McDonald NA, Feoktistova A, Chen J-S, Huang H, Guillen R, Boone C, Sidhu SS, Beckley JR, Gould KL; The Cdc15 and Imp2 SH3 domains cooperatively scaffold a network of proteins that redundantly ensure efficient cell division in fission yeast; *Mol. Biol. Cell* November 26, 2014 mbc.E14-10-1451; doi: 10.1091/mbc.E14-10-1451  
<http://www.ncbi.nlm.nih.gov/pubmed/25428987>
8. Saitoh S, Mori A, Uehara L, Masuda F, Soejima S, Yanagida M; Mechanisms of expression and translocation of major fission yeast glucose transporters regulated by CaMKK/phosphatases, nuclear shuttling and TOR; *Mol. Biol. Cell* November 19, 2014 mbc.E14-11-1503; doi: 10.1091/mbc.E14-11-1503  
<http://www.ncbi.nlm.nih.gov/pubmed/25411338>
9. Mazo-Vargas A, Park H, Aydin M, Buchler NE; Measuring fast gene dynamics in single cells with time-lapse luminescence microscopy; *Mol. Biol. Cell* November 5, 2014 vol. 25 no. 22 3699-3708; doi: 10.1091/mbc.E14-07-1187  
<http://www.ncbi.nlm.nih.gov/pubmed/25232010>

## Yeast (continued)

10. Heasley LR, Garcia G, McMurray MA; Off-Target Effects of the Septin Drug Forchlorfenuron on Nonplant Eukaryotes; *Eukaryotic Cell* November 2014 vol. 13 no. 11 1411-1420; doi: 10.1128/EC.00191-14  
<http://www.ncbi.nlm.nih.gov/pubmed/25217460>
11. Pierre-Jerome E, Jang SS, Havens KA, Nemhauser JL, Klavins E; Recapitulation of the forward nuclear auxin response pathway in yeast; *PNAS*, July 1, 2014 vol. 111 no. 26; doi: 10.1073/pnas.1324147111  
<http://www.ncbi.nlm.nih.gov/pubmed/24979769>
12. Burke T, Christensen J, Barone E, Suarez C, Sirotkin V, Kovar D. Homeostatic actin cytoskeleton networks are regulated by assembly factor competition for monomers. *Current Biology*, Mar 2014; 24 (5): 579-85.  
<http://www.ncbi.nlm.nih.gov/pubmed/24560576>
13. Tsai, I-T, Lin J-L, Chiang Y-H, Chuang Y-C, Liang S-S, Chuang C-N, Huang T-N, Wang T-F ; Interorganelle interactions and inheritance patterns of nuclei and vacuoles in budding yeast meiosis; *Autophagy* Volume 10, Issue 2, 2014 pages 285-295; DOI: 10.4161/auto.27192  
<http://www.ncbi.nlm.nih.gov/pubmed/24345927>
14. Newnham L, Jordan PW, Carballo JA, Newcombe S, Hoffmann E; Ipl1/Aurora Kinase Suppresses S-CDK-Driven Spindle Formation during Prophase I to Ensure Chromosome Integrity during Meiosis; *PLOS ONE* 1 December 2013 Volume 8 Issue 12; DOI: 10.1371/journal.pone.0083982  
<http://www.ncbi.nlm.nih.gov/pubmed/24386320>
15. Egriboz O, Goswami S, Tao X, Dotts K, Schaeffer C, Pilauri V, Hopper JE; Self-Association of the Gal4 Inhibitor Protein Gal80 Is Impaired by Gal3: Evidence for a New Mechanism in the GAL Gene Switch; *Cell. Biol.* September 2013 vol. 33 no. 18 3667-3674; doi: 10.1128/MCB.00646-12 Mol.  
<http://www.ncbi.nlm.nih.gov/pubmed/23858060>
16. Tsuchiya D, Lacefield S; Cdk1 Modulation Ensures the Coordination of Cell-Cycle Events during the Switch from Meiotic Prophase to Mitosis; *Current Biology* Volume 23, Issue 16, 19 August 2013, Pages 1505-1513; doi:10.1016/j.cub.2013.06.031  
<http://www.ncbi.nlm.nih.gov/pubmed/23871241>
17. Leadsham JE, Sanders G, Giannaki S, Bastow EL, Hutton R, Naeimi WR, Breitenbach M, Gourlay CW; Loss of Cytochrome c Oxidase Promotes RAS-Dependent ROS Production from the ER Resident NADPH Oxidase, Yno1p, in Yeast; *Cell Metabolism* Volume 18, Issue 2, 6 August 2013, Pages 279-286; doi:10.1016/j.cmet.2013.07.005  
<http://www.ncbi.nlm.nih.gov/pubmed/23931758>
18. Zopf CJ, Quinn K, Zeidman J, Maheshri N; Cell-Cycle Dependence of Transcription Dominates Noise in Gene Expression; *PLOS Computational Biology*, 1 July 2013, Volume 9 Issue 7  
<http://www.ncbi.nlm.nih.gov/pubmed/23935476>
19. Sarkar S, Shenoy RT, Dalgaard JZ, Newnham L, Hoffmann E, Millar JBA, Arumugam P; Monopolar Subunit Csm1 Associates with MIND Complex to Establish Monopolar Attachment of Sister Kinetochores at Meiosis I; *PLOS Genetics* 1 July 2013 Volume 9 Issue 7; DOI: 10.1371/journal.pgen.1003610  
<http://www.ncbi.nlm.nih.gov/pubmed/23861669>
20. Gordon AJ, Satory D, Halliday JA, Herman C. Heritable change caused by Transient Transcription. *PLoS Genetics*. *PLoS Genetics*, 2013 Jun; 9 (6): e1003595  
<http://www.ncbi.nlm.nih.gov/pubmed/23825966>
21. Meyer R, Kim S, Obeso D, Straight P, Winey M, Dawson D. Mps1 and Ipl1/Aurora B Act Sequentially to Correctly Orient Chromosomes on the Meiotic Spindle of Budding Yeast. *Science*. 2013 Mar; 339:1071.  
<http://www.ncbi.nlm.nih.gov/pubmed/23371552>
22. Doncic A, Eser U, Atay O Skotheim JM; An Algorithm to Automate Yeast Segmentation and Tracking; *PLOS ONE* 1 March 2013 Volume 8 Issue 3; DOI: 10.1371/journal.pone.0057970  
<http://www.ncbi.nlm.nih.gov/pubmed/23520484>
23. Reiter W, Klopff E, De Wever V, Anrather D, Petryshyn A, Roetzer A, Niederacher G, Roitinger E, Dohnal I, Görner W, Mechtler K, Brocard C, Schüller C, Ammerer G; Yeast Protein Phosphatase 2A-Cdc55 Regulates the Transcriptional Response to Hyperosmolarity Stress by Regulating Msn2 and Msn4 Chromatin Recruitment; *Biol. March* 2013 vol. 33 no. 5 1057-1072; doi: 10.1128/MCB.00834-12 Mol. Cell  
<http://www.ncbi.nlm.nih.gov/pubmed/23275436>
24. Grousl T, Ivanov P, Pompach P, Frydlova I, Slaba R, Senohrabkova L, Novakova L, Hasek J; Heat Shock-Induced Accumulation of Translation Elongation and Termination Factors Precedes Assembly of Stress Granules in *S. cerevisiae*; *PLOS ONE* 1 February 2013 Volume 8 Issue 2; DOI: 10.1371/journal.pone.0057083  
<http://www.ncbi.nlm.nih.gov/pubmed/23451152>
25. Sabatinos SA, Mastro TL, Green MD, Forsburg SL; A Mammalian-Like DNA Damage Response of Fission Yeast to Nucleoside Analogs; *Genetics* January 1, 2013 vol. 193 no. 1 143-157; doi: 10.1534/genetics.112.145730  
<http://www.ncbi.nlm.nih.gov/pubmed/23150603>

## Yeast (continued)

26. Scholz D, Förtsch J, Böckler S, Klecker T, Westermann B; Analyzing Membrane Dynamics with Live Cell Fluorescence Microscopy with a Focus on Yeast Mitochondria, *Methods in Molecular Biology* Volume 1033, 2013, pp 275–283  
<http://www.ncbi.nlm.nih.gov/pubmed/23996183>
27. Klecker T, Scholz D, Förtsch J, Westermann B; The yeast cell cortical protein Num1 integrates mitochondrial dynamics into cellular architecture ; *J Cell Sci* 2013 126, 2924–2930; doi: 10.1242/jcs.126045  
<http://www.ncbi.nlm.nih.gov/pubmed/23641071>
28. Bermejo C, Haerizadeh F, Sadoine MSC, Chermak D, Frommer WB; Differential regulation of glucose transport activity in yeast by specific cAMP signatures; *Biochem. J.* (2013) 452 (489–497); doi:10.1042/BJ20121736  
<http://www.ncbi.nlm.nih.gov/pubmed/23495665>
29. Kim S, Meyer R, Chuong H, Dawson DS; Dual mechanisms prevent premature chromosome segregation during meiosis; *Genes & Dev.* 2013. 27: 2139–2146; doi: 10.1101/gad.227454.113  
<http://www.ncbi.nlm.nih.gov/pubmed/24115770>
30. Dadiani M, van Dijk D, Segal B, Field Y, Ben-Artzi G, Raveh-Sadka T, Levo M, Kaplow I, Weinberger A, Segal E; Two DNA-encoded strategies for increasing expression with opposing effects on promoter dynamics and transcriptional noise; *Genome Res.* 2013. 23: 966–976; doi: 10.1101/gr.149096.112  
<http://www.ncbi.nlm.nih.gov/pubmed/23403035>
31. Sabatinos SA, Green MD, Forsburg SL; Continued DNA Synthesis in Replication Checkpoint Mutants Leads to Fork Collapse; *Mol. Cell. Biol.* December 2012 vol. 32 no. 24 4986–4997; doi: 10.1128/MCB.01060-12  
<http://www.ncbi.nlm.nih.gov/pubmed/23045396>
32. Tscherner M, Stappler E, Hnisz D, Kuchler K; The histone acetyltransferase Hat1 facilitates DNA damage repair and morphogenesis in *Candida albicans*; *Molecular Microbiology* Volume 86, Issue 5, pages 1197–1214, December 2012; DOI: 10.1111/mmi.12051  
<http://www.ncbi.nlm.nih.gov/pubmed/23075292>
33. Rafelski SM, Viana MP, Zhang Y, Chan YM, Thorn K, Yam P, Fung J, Li H, Costa L, Marshall W. Mitochondrial network size scaling in budding yeast. *Science*, 2012 November; 338 (6108): 822–824.  
<http://www.ncbi.nlm.nih.gov/pubmed/23139336>
34. Kraft C, Kijanska M, Kalie E, Siergiejuk E, Lee SS, Semplicio G, Stoffel I, Brezovich A, Verma M, Hansmann I, Ammerer G, Hofmann K, Tooze S, Peter M. Binding of the Atg1/ULK1 kinase to the ubiquitin-like protein Atg regulates autophagy. *EMBO J.*, 2012 Sept 12; 31 (18): 3691–703.  
<http://www.ncbi.nlm.nih.gov/pubmed/22885598>
35. Havens KA, Guseman JM, Jang SS, Pierre-Jerome E, Bolten N, Klavins E, Nemhauser JL; A Synthetic Approach Reveals Extensive Tunability of Auxin Signaling; *Plant Physiology* September 2012 vol. 160 no. 1 135–142; doi: <http://dx.doi.org/10.1104/pp.112.202184>  
<http://www.ncbi.nlm.nih.gov/pubmed/22843664>
36. Sanchez-Diaz A, Nkosi PJ, Murray S, Labib K. The Mitotic Exit Network and Cdc14 phosphatase initiate cytokinesis by counteracting CDK phosphorylations and blocking polarized growth. *EMBO J.*, 2012 Aug 29; 31 (17): 3620–34.  
<http://www.ncbi.nlm.nih.gov/pubmed/22872148>
37. Kono K, Saeki Y, Yoshida S, Tanaka K, Pellman D. Proteasomal degradation resolves competition between cell polarization and cellular wound healing. *Cell*, 2012 Jul 6; 150 (1): 151–64  
<http://www.ncbi.nlm.nih.gov/pubmed/22727045>
38. Kim H, Kim A, Cunningham KW; Vacuolar H<sup>+</sup>-ATPase (V-ATPase) Promotes Vacuolar Membrane Permeabilization and Nonapoptotic Death in Stressed Yeast; *The Journal of Biological Chemistry* June 1, 2012, 287, 19029–19039; doi: 10.1074/jbc.M112.363390  
<http://www.ncbi.nlm.nih.gov/pubmed/22511765>
39. Pelet S, Dechant R, Lee SS, van Drogen F, Peter M; An integrated image analysis platform to quantify signal transduction in single cells; *Integr. Biol.*, 2012,4, 1274–1282; DOI: 10.1039/C2IB20139A  
<http://www.ncbi.nlm.nih.gov/pubmed/22976484>
40. Grewal C, Hickmott J, Rentas S, Karagiannis J; A conserved histone deacetylase with a role in the regulation of cytokinesis in *Schizosaccharomyces pombe*; *Cell Division* 2012, 7:13  
<http://www.ncbi.nlm.nih.gov/pubmed/22559741>
41. Wei P, Wong W., Park J., Corcoran E., Peisajovich S., Onuffer J., Weiss A., Lim W. Bacterial virulence proteins as tools to rewire kinase pathways in yeast and immune cells. *Nature*, 2012 August 16; 488(7411):384–8  
<http://www.ncbi.nlm.nih.gov/pubmed/22820255>

## Yeast (continued)

42. Lee SS, Horvath P, Pelet S, Hegemann B, Lee LP, Peter M; Quantitative and dynamic assay of single cell chemotaxis; *Integr. Biol.*, 2012,4, 381-390  
<http://www.ncbi.nlm.nih.gov/pubmed/22230969>
43. Bermejo C, Haerizadeh F, Takanaga H, Chermak D, Frommer W. Optical sensors for measuring dynamic changes of cytosolic metabolite levels in yeast. *Nature Protocols*. 2011 October 27 6; 1806-1817.  
<http://www.ncbi.nlm.nih.gov/pubmed/22036883>
44. Eser U, Falleur-Fettig M, Johnson A, Skotheim J. Commitment to a cellular transition precedes genome-wide transcriptional change. *Molecular Cell*. 2011 Aug 19 4;43:515-527.  
<http://www.ncbi.nlm.nih.gov/pubmed/21855792>
45. Doncic A, Falleur-Fettig M, Skotheim JM; Distinct Interactions Select and Maintain a Specific Cell Fate; *Molecular Cell*, 2011, vol 4: 528-539; DOI 10.1016/j.molcel.2011.06.025  
<http://www.ncbi.nlm.nih.gov/pubmed/21855793>
46. Tamura N, Oku M, Sakai Y. Atg8 regulates vacuolar membrane dynamics in a lipidation-independent manner in *Pichia pastoris*. *J Cell Sci*. 2010 Dec 1;123(Pt 23):4107-16.  
<http://www.ncbi.nlm.nih.gov/pubmed/21045113>
47. Bermejo C, Haerizadeh F, Takanaga H, Chermak D, Frommer WB. Dynamic analysis of cytosolic glucose and ATP levels in yeast with optical sensors. *Biochem J*. 2010 Sep 20  
<http://www.ncbi.nlm.nih.gov/pubmed/20854260>
48. Dechant R, Binda M, Lee SS, Pelet S, Winderickx J, Peter M. Cytosolic pH is a second messenger for glucose and regulates the PKA pathway through V-ATPase. *EMBO J*. 2010 Aug 4;29(15):2515-26.  
<http://www.ncbi.nlm.nih.gov/pubmed/20581803>
49. Manzoni R, Montani F, Visintin C, Caudron F, Ciliberto A, Visintin R. Oscillations in Cdc14 release and sequestration reveal a circuit underlying mitotic exit. *J Cell Biol*. 2010 Jul 26: 209-22.  
<http://www.ncbi.nlm.nih.gov/pubmed/20660629>
50. Furuya K, Niki H. The DNA damage checkpoint regulates a transition between yeast and hyphal growth in *Schizosaccharomyces japonicus*. *Mol Cell Biol*. 2010 Jun;30(12):2909-17.  
<http://www.ncbi.nlm.nih.gov/pubmed/20368354>
51. Thorn K. Spinning-disc confocal microscopy of yeast. *Methods of Enzymology*, 2010 Vol 470, 581-602.  
<http://www.ncbi.nlm.nih.gov/pubmed/20946826>
52. Octavio LM, Gedeon K, Maheshri N. Epigenetic and conventional regulation is distributed among activators of FLO11 allowing tuning of population-level heterogeneity in its expression. *PLoS Genet*. 2009 Oct;5(10):e1000673.  
<http://www.ncbi.nlm.nih.gov/pubmed/19209350>
53. Lee PJ, Gaige TA, Hung PJ; Dynamic cell culture: a microfluidic function generator for live cell microscopy; *The Royal Society of Chemistry: Lab Chip*, 2009, Vol 9, pages 164-166; DOI: 10.1039/b807682k  
<http://www.ncbi.nlm.nih.gov/pubmed/19209350>
54. Lee PJ, Helman NC, Lim WA, Hung PJ; A microfluidic system for dynamic yeast cell imaging; *BioTechniques*, January 2008, vol 44, pages 91-95; doi 10.2144/000112673  
<http://www.ncbi.nlm.nih.gov/pubmed/18254385>

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