Elena Hidalgo

CURRICULUM VITAE

STUDIES AND ACADEMIC DEGREES

1981-1986.	Graduate in Pharmacy in the School of Pharmacy at the University of Barcelona with a grade-point average of Excellent (A).
1986-1987.	Experimental work on the respiratory regulation of the enzyme L-1,2-propanediol oxidoreductase in *Escherichia coli*, directed by Dr. J. Aguilar at the Unit of Biochemistry, School of Pharmacy, University of Barcelona (Spain).
1987-1991.	Doctoral Thesis on "Characterization and regulation of the expression of the gene *ald* of *Escherichia coli*", directed by Dr. J. Aguilar at the Unit of Biochemistry, School of Pharmacy, University of Barcelona (Spain). Ph.D. in Biochemistry and Molecular Biology.
1990-1992.	Teaching Assistant Professor at the Unit of Biochemistry, School of Pharmacy, University of Barcelona.
1992-1997	Postdoctoral fellow at the laboratory of Dr. Bruce Demple, Department of Molecular and Cellular Toxicology, Harvard School of Public Health, Harvard University, Boston.
1998-1999	Postdoctoral fellow at the laboratory of Dr. Nic Jones, Gene Regulation Laboratory, Imperial Cancer Reseach Fund, London.
1999-2008	Professor at Universitat Pompeu Fabra, Barcelona, Spain.
2009-on	Full Professor at Universitat Pompeu Fabra, Barcelona, Spain.

FELLOWSHIPS AND AWARDS

Fellowship from the Ministery of Education and Science: "Formación de Personal Investigador". Duration: 4 years (1987-1990).

Award from the Catalan Government (CIRIT) "Ajut a Projectes de Recerca D'Investigadors Joves". Convocatory of 1987.

Fellowship from the Ministery of Education and Science for short term stays in foreigh laboratories. Duration: 3 months (June-August 1989 in Dr. E.C.C. Lin laboratory, Department of Microbiology and Molecular Genetics, Harvard Medical School, Boston).

Fellowhip from the North Atlantic Treaty Organization (NATO) for postdoctoral stays. Duration: 1 year and 4 months (September 1992-December 1993).

Fellowship from the Spanish Ministery of Education and Science and the Fulbright organization (MEC/Fulbright) for postdoctoral stays. Duration: 2 years (January 1994-December 1995).

Fellowship from the Catalan Ministery of Education and Science for postdoctoral stays. Duration: 2 years (January 1996-December 1997).

Fellowship from the EMBO laboratory for postdoctoral stays. Duration: 2 years (February 1998-January 2000).

Distinció de la Generalitat de Catalunya per a la Promoció de la Recerca Universitaria a Elena Hidalgo. Funding Agency: Departament de Universitat, Recerca i Societat de la Informació (Generalitat de Catalunya). Duration: 5 years. Amount: 138.40 Euros (2003 – 2007)

Acreditació de Recerca Avançada a Elena Hidalgo. AQU Catalunya. Convocatory: 2008.

Acreditación de la ANECA para optar al cuerpo de catedráticos funcionarios. 2009

ICREA Academia 2010

ICREA Academia 2015

RESEARCH GRANTS FROM 2003

Project Title: Caracterización de respuestas celulares a estrés oxidativo en *Schizosaccharomyces pombe*
Funding Agency: Ministerio de Ciencia y Tecnología
Participating institutions: Universitat Pompeu Fabra
Code Number: PM0029
Dates: From 2000 to 2003
Amount; 90.000 Euros
Principal investigator: Elena Hidalgo
Number of participants: 2

Project Title: Estudio de distintas respuestas a estrés en *Schizosaccharomyces pombe*; papel del factor de transcripción Pap1 y de la MAP quinasa Sty1
Funding Agency: Ministerio de Ciencia y Tecnología
Participating institutions: Universitat Pompeu Fabra
Code Number: BMC2003-00220
Dates: From 2003 to 2006
Amount; 181.750 Euros

Principal investigator: Elena Hidalgo
Number of participants: 4

Project Title: La peroxiredoxina Tpx1 y la ruta de la quinasa Sty1 juegan papeles esenciales en las respuestas a estrés en *Schizosaccharomyces pombe*
Funding Agency: Ministerio de Educación y Ciencia
Participating institutions: Universitat Pompeu Fabra
Code Number: BFU2006-02610
Dates: From 2007 to 2010
Amount; 225.786 Euros
Principal investigator: Elena Hidalgo
Number of participants: 5

Project Title: Papel funcional del estrés oxidativo y nitrosativo en grandes sistemas biológicos
Funding Agency: Ministerio de Educación y Ciencia (Consolider-Ingenio 2010)
Participating institutions: CSIC, Universitat Pompeu Fabra, etc (10 grupos, 2 of which belong to CSIC)
Code Number: CSD2007-00020
Dates: From 2007 to 2012
Amount; 637.000 Euros (to Elena Hidalgo's group)
Principal investigator: Elena Hidalgo (coordinator: Santiago Lamas, CIB, CSIC, Madrid)
Number of participants: 12 in E.H.'s group

Project Title: Identification of new cell division and stress response components using a extensive collection of fission yeast viable mutants
Funding Agency: Ministry of Science from Korea and Bioneer Corporation (KRIBB)
Participating institutions: Universitat Pompeu Fabra y KRIBB
Principal investigator: José Ayté
Amount: 300.000 US$ (approximate value of the collection)
Code Number:
Dates: 2 years (2007-2009)

Project Title: Respuestas a estrés oxidativo y control del ciclo celular en *Schizosaccharomyces pombe*
Funding Agency: Generalitat de Catalunya
Participating institutions: Universitat Pompeu Fabra
Code Number: 2009 SGR 196
Dates: From 2009 to 2014
Amount; 41.600 Euros
Principal investigator: Elena Hidalgo
Number of participants: 15

Project Title: Endogenous generation and cellular management of oxidative stress in *Schizosaccharomyces pombe*
Funding Agency: Ministerio de Ciencia e Innovación
Participating institutions: Universitat Pompeu Fabra
Code Number: BFU2009-06933
Dates: From 2010 to 2012
Amount; 350.900 Euros
Principal investigator: Elena Hidalgo
Number of participants: 8

Project Title: Understanding peroxide reactivity and sensing
Funding Agency: Ministerio de Economía y Competitividad

Participating institutions: Universitat Pompeu Fabra
Code Number: BFU2012-32045
Dates: From 2013 to 2015
Amount: 315.900 Euros
Principal investigator: Elena Hidalgo
Number of participants: 8

Project Title: Oxidative Stress and Cell Cycle Group
Funding Agency: Generalitat de Catalunya
Participating institutions: Universitat Pompeu Fabra
Code Number: 2014 SGR 154
Dates: From 2015 to 2017
Amount: 18,000 Euros
Principal investigator: Elena Hidalgo
Number of participants: 12

Project Title: Protein modifications upon oxidative stress - activation of signaling cascades and alteration of the cellular proteostasis network
Funding Agency: Ministerio de Economía y Competitividad
Participating institutions: Universitat Pompeu Fabra
Code Number: BFU2015-68350-P
Dates: From 2016 to 2018
Amount: 320.166 Euros
Principal investigator: Elena Hidalgo
Number of participants: 8

Project Title: Consolidation of a multidisciplinary network in redox biology
Funding Agency: Ministerio de Educación y Ciencia
Participating institutions: CBM-SO/CSIC, Universitat Pompeu Fabra, etc (9 grupos, 2 of which belong to CSIC)
Code Number: SAF2015-71521-REDC
Dates: From 2015 to 2017
Amount: 51.500 Euros
Principal investigator: Elena Hidalgo (coordinator: Santiago Lamas, CBM-SO, CSIC, Madrid)
Number of participants: 10 (group of Elena Hidalgo)

Project Title: Oxidative Stress and Cell Cycle Group
Funding Agency: Generalitat de Catalunya
Participating institutions: Universitat Pompeu Fabra
Code Number: 2017 SGR 539
Dates: From 2018 to 2020
Amount: 37,275 Euros
Principal investigator: Elena Hidalgo
Number of participants: 15

Project Title: Redox Biology and Medicine Network
Funding Agency: Ministerio de Ciencia, Innovación y Universidades
Participating institutions: Universidad de Valencia, CNIC, Universitat de Barcelona, Universitat Pompeu Fabra, etc (12 groups)
Code Number: RED2018-102576-T
Dates: From 2020 to 2021
Amount: 20.500 Euros
Principal investigator: Elena Hidalgo (coordinator: Juan Sastre, Universidad de Valencia)
Number of participants: 10 (group of Elena Hidalgo)

Project Title: H_2O_2 levels linked to proteotoxicity and signaling
Funding Agency: Ministerio de Ciencia, Innovación y Universidades
Participating institutions : Universitat Pompeu Fabra
Code Number: PGC2018-093920-B-I00
Dates: From 2019 to 2021
Amount: 232,925 euros
Principal investigator: Elena Hidalgo
Number of participants: 3 + 4

Project Title: Mitochondrial homeostasis as a central hub of longevity - identification of the mitoproteome linked to a healthy aging
Funding Agency: Horizon 2020 European Union funding for Research & Innovation, European Commision
Participating institutions : Universitat Pompeu Fabra
Code Number: EPIC-XS-0000145
Dates: From 2020 to 2021
Amount: ~ 15,000 euros (54 samples for mass spectrometry analysis)
Principal investigator: Elena Hidalgo and Marga Cabrera
Number of participants: 2

ORGANIZATION OF MEETINGS

Title: Reactive oxygen and nitrogen species
Organizers: Elena Hidalgo and Joaquim Ros
Meeting: Annual meeting ROSAS-Consolider-Ingenio
Number of participants: 71
Place: Sant Feliu de Guixols (Gerona)
Date: 9-11 May 2010

Title: Thiol oxidation in toxicity and signaling
Organizers: Elena Hidalgo, Joris Messens and Johannes Herrmann
Congreso: EMBO Workshop – Thiol oxidation in toxicity and signaling
Number of participants: 150
Place: Sant Feliu de Guixols (Gerona)
Date: 17-21 September 2017

Title: 10th International Fission Yeast Meeting
Organizers: José Ayté, Rosa Aligué, Elena Hidalgo
Congreso: EMBO Workshop – 10th International Fission Yeast Meeting
Number of participants: 340
Place: Hotel Barceló Sants (Barcelona)
Date: 14-19 July 2019

PhD STUDENTS

Esther Castillo Andreo.
Title: Regulación por estrés oxidativo de la actividad del factor de transcripción Pap1 de Schizosaccharomyces pombe.
Date: June 2005.

Ana Vivancos.
Title: Caracterización de respuestas celulares a estrés oxidativo en Schizosaccharomyces pombe.
Date: June 2006.

Alice Zuin.
Title: Estrés oxidativo endógeno en la levadura Schizosaccharomyces pombe: su papel en la regulación del envejecimiento cronológico y en la activación de la quinasa Sty1.
Date: October 2009.

Miriam Sansó.
Title: Role of the stress-dependent MAP kinase Sty1 and the transcription factor Atf1 in transcription regulation in fission yeast.
Date: July 2010.

Natalia Gabrielli.
Title:. Cross-talk between iron starvation and H_2O_2 signalling pathways in *Schizosaccharomyces pombe*
Date: December 2012.

Isabel A. Calvo.
Title: Study of the role of Pap1 as a sensor of H_2O_2 and as a transcriptional activator of stress responses in *Schizosaccharomyces pombe*
Date: December 2012.

Sarela García-Santamarina.
Title: Control of redox homeostasis: environmental and genetic regulation of oxidative protein damage in *Schizosaccharomyces pombe*
Date: June 2013.

Esther Paulo
Title: Regulation of gene expression programs by the MAPK Sty1 and the transcription factor Atf1
Date: December 2014

Alba Domènech
Title: Oxidative stress in toxicity and signalling – Control of cysteine oxidation and reduction by the redoxin systems of fission yeast
Date: March 2018

Luis Marte
Title: Role of the protein quality control system in basal and stress conditions in fission yeast
Date: January 2020

Claudia Salat-Canela
Title: Nuclear and non-nuclear roles of the MAP kinase Sty1 on cell cycle, cell polarity and transcription
Date: September 2020

Rodrigo Fraile
Title: Role of the MAP kinase Sty1 and the transcription factor Atf1 in euchromatin and heterochromatin dynamics in *Schizosaccharomyces pombe*
Date: July 2021

PUBLICATIONS

1. Cabiscol, E., Hidalgo, E., Badía, J., Baldomá, L., L., Ros, J. and Aguilar, J. 1990. Oxygen regulation of L-1,2-propanediol oxidoreductase activity in *Escherichia coli*. J. Bacteriol. 172:5514-5515.

2. Hidalgo, E., Chen, Y.-M., Lin, E.C.C. and Aguilar, J. 1991. Molecular cloning and DNA sequencing of the *Escherichia coli* K-12 *ald* gene encoding aldehyde dehydrogenase. J. Bacteriol. 173:6118-6123.

3. Cabiscol, E., Badía, J., Baldomá, L., Hidalgo, E., Aguilar, J. and Ros, J. 1992. Inactivation of propanediol oxidoreductase of *Escherichia coli* by metal-catalyzed oxidation. Biochim. et Biophys. Acta 1118:155-160.

4. Nunoshiba, T., Hidalgo, E., Amábile-Cuevas, C.F. and Demple, B. 1992. Two-stage control of an oxidative stress regulon: the *Escherichia coli* SoxR protein triggers redox-inducible expression of the *soxS* regulatory gene. J. Bacteriol. 174:6054-6060.

5. Moralejo, P, Egan, S.M., Hidalgo, E. and Aguilar, J. 1993. Sequencing and characterization of a gene cluster encoding the enzymes for L-rhamnose metabolism in *Escherichia coli*.. J. Bacteriol. 175:5585-5594.

6. Nunoshiba, T., Hidalgo, E., Li, Z. and Demple, B. 1993. Negative autoregulation by the *Escherichia coli* SoxS protein: a dampening mechanism for the *soxRS* redox stress response. J. Bacteriol. 175:7492-7494.

7. Hidalgo, E. and Demple, B. 1994. An iron-sulfur center essential for transcriptional activation by the redox-sensing SoxR protein. EMBO J. 10:138-146.

8. Hidalgo, E., Nunoshiba, T. and Demple, B. 1994. *soxRS* oxidative stress regulon of *Escherichia coli.* Meth. Mol. Genet. 3:325-339.

9. Hidalgo, E., Bollinger, J. M.Jr., Bradley, T. M., Walsh, C.T. and Demple, B. 1995. Binuclear [2Fe-2S] clusters in the *Escherichia coli* SoxR protein and role of the metal centers in transcription. J. Biol. Chem. 270:20908-20914.

10. Hidalgo, E. and Demple, B. 1997. Adaptive responses to oxidative stress: the *soxRS* and *oxyR* regulon, in *Regulation of Gene Expression in* Escherichia coli (Lin, E.C.C. and Lynch, S., eds) R.G. Landes Company, Austin, pp.435-452.

11. Hidalgo, E. and Demple, B. 1996. Activation of SoxR-dependent transcription *in vitro* by noncatalytic or NifS-mediated assembly of [2Fe-2S] clusters into apo-SoxR. J. Biol. Chem. 271:7269-7272.

12. Hidalgo, E., Limon, A. and Aguilar, J. 1996. A second *Escherichia coli* gene with similarity to *gapA*. Microbiologia 12:99-106.

13. Ding, H., Hidalgo, E. and Demple, B. 1996. The redox state of the [2Fe-2S] clusters in SoxR protein regulates its activity as a transcription factor. J. Biol. Chem. 271:33173-33175.

14. Hidalgo, E., Ding, H. and Demple, B. 1997. Redox signal transduction: mutations shifting [2Fe-2S] centers of the SoxR sensor-regulator to the oxidized form. Cell 88:121-129.

15. Hidalgo, E. and Demple, B. 1997. Spacing of promoter elements regulates the basal expression of the *soxS* gene and converts SoxR from a transcriptional activator into a repressor. EMBO J. 16:1056-1065.

16. Limón, A., Hidalgo, E. and Aguilar, J. 1997. The *ald* gene of *Escherichia coli* is under the control of at least three transcriptional regulators. Microbiology 143:2085-2095.

17. Bradley, T.M., Hidalgo, E., Leautaud, V., Ding, H. and Demple, B. 1997. Cysteine-to-alanine replacements in the *E. coli* SoxR protein and the role of the [2Fe-2S] centers in transcriptional activation. Nucleic Acids Res. 25:1469-1475.

18. Hidalgo, E., Ding, H. and Demple, B. 1997. Redox signal transduction via iron-sulfur clusters in transcription factors. Trends Biochem. Sci. 22:207-210.

19. Hidalgo, E., Leautaud, V. and Demple, B. 1998. The redox-regulated SoxR protein acts from a single DNA site as a repressor and an allosteric activator. EMBO J. 17:2629-2636.

20. Demple, B., Hidalgo, E. and Ding, H. 1999. Transcriptional regulation via redox-sensitive iron-sulphur centres in an oxidative stress response. Biochem. Soc. Symp. 64:119-128.

21. Sánchez-Piris, M., Posas, F., Alemany, V., Winge, I., Hidalgo, E., Bachs, O. and Aligué, R. 2002. The serine/threonine kinase Cmk2 is required for oxidative stress response in fission yeast. J. Biol. Chem. 277:17722-17727.

22. Castillo, E.A., Ayté, J., Chiva, C., Moldón, A., Carrascal, M., Abián, J., Jones, N. and Hidalgo, E. 2002. Diethylmaleate activates the transcription factor Pap1 by covalent modification of critical cysteine residues. Mol. Microbiol. 45:243-254.

23. Castillo, E.A., Vivancos, A.P., Ayté, J., Jones, N. and Hidalgo, E. 2003. *Schizosaccharomyces pombe* cells lacking the Ran-binding protein Hba1 show a multidrug resistance phenotype due to constitutive nuclear accumulation of Pap1. J. Biol. Chem. 278:40565-40572

24. Castillo, E.A., Vivancos, A. and Hidalgo, E. 2003. Pap1, a sensor of oxidative stress in *Schizosaccharomyces pombe*. In *Recent Developments in Cell Research* (Pandalai, S.G., ed), Research Signpost, Trivandrum, p.217-230.

25. Vivancos, A., Castillo, E.A., Jones, N., Ayte, J. and Hidalgo, E. 2004. Activation of the redox-sensor Pap1 by hydrogen peroxide requires modulation of the intracellular oxidant concentration. Mol. Microbiol. 52: 1427-1435.

26. Madrid, M., Soto, T., Franco, A., Paredes, V., Vicente, J. Hidalgo, E., Gacto, M. and Cansado, J. 2004. A cooperative role for Atf1 and Pap1 in the detoxification of oxidative stress induced by glucose deprivation in *Schizosaccharomyces pombe.* J. Biol. Chem. 279:41594-602.

27. Malapeira, J., Moldón, A., Hidalgo, E., Smith, G.R., Nurse, P. and Ayté, J. 2005. A Meiosis-Specific Cyclin Regulated By Splicing Is Required For Proper Progression Through Meiosis. Mol. Cell Biol. 25:6330-6337.

28. Vivancos, A. P., Castillo, E.A., Biteau, B., Nicot, C., Ayté, J., Toledano, M.B. and Hidalgo, E. 2005. A cysteine-sulfinic acid in peroxiredoxin regulates H_2O_2-sensing by the antioxidant Pap1 pathway. Proc. Nat. Acad. Sci. USA 101:8875-8880.

29. Zuin, A., Vivancos, A.P., Sansó, M., Takatsume, Y., Ayté, J., Inoue, Y. and Hidalgo, E. 2005. The glycolytic metabolite methylglyoxal activates Pap1 and Sty1 stress responses in *Schizosaccharomyces pombe.* J. Biol. Chem. 280:36708-36713.

30. Vivancos, A.P., Jara, M., Zuin, A., Sansó, M. e Hidalgo, E. 2006. Oxidative stress in *Schizosaccharomyces pombe*: different H2O2 levels, different response pathways. Mol. Genet. Genomics 276:495-502.

31. Jara, M., Vivancos, A.P., Calvo, I.A., Moldón, A., Sansó, M. and Hidalgo, E. 2007. The peroxiredoxin Tpx1 is essential as a H_2O_2-scavenger during aerobic growth in fission yeast. Mol. Biol. Cell 18:2288-95.

32. Jara, M., Vivancos, A.P., and Hidalgo, E. 2008. C-terminal truncation of the peroxiredoxin Tpx1 decreases its sensitivity for hydrogen peroxide without compromising its role in signal transduction. Genes to Cells 13:171-179.

33. López-Avilés, S., Lambea, E., Moldón, A., Grande, M., Fajardo, A., Rodríguez-Gabriel, M.A., Hidalgo, E. and Aligue, R. 2008. Activation of Srk1 by the MAP kinase Sty1 precedes its dissociation from the kinase and signals its degradation. Mol. Biol. Cell 19:1670-1679

34. Sansó, M., Gogol, M., Ayté, J., Seidel, C. and Hidalgo, E. 2008. Transcription factors Pcr1 and Atf1 have distinct roles in stress- and Sty1-dependent gene regulation. Eukaryot. Cell 7:826-835.

35. Zuin, A., Gabrielli, N., Calvo, I.A., García-Santamarina, S., Hoe, K.-L., Kim, D.U., Park, H.-O., Hayles, J., Ayté, J. and Hidalgo, E. 2008. Mitochondrial dysfunction increases oxidative stress and decreases chronological life span in fission yeast. PLoS ONE 3:e2842.

36. Calvo, I.A., Gabrielli, N., Iván Iglesias-Baena, I., García-Santamarina, S., Hoe, K.-L., Dong Uk Kim, D.U., Sansó, M., Zuin, A., Pérez, P., Ayté, J. and Hidalgo, E. 2009. Genome-wide screen of genes required for caffeine tolerance in fission yeast. PLoS ONE 4:e6619.

37. Zuin, A., Carmona, M., Gabrielli, N., Morales-Ivorra, I., Vivancos, A.P., Ayté, J. and Hidalgo, E. 2010. Life-span extension by calorie restriction relies on the Sty1 MAP kinase stress pathway. EMBO J. 29:981-991.

38. Zuin, A., Castellano-Esteve, D., Ayté, J. and Hidalgo, E. 2010. Living on the edge: stress and activation of stress responses promote lifespan extension. Aging 2:231-237.

39. Gómez-Escoda, B., Ivanova, T., Calvo, I.A., Alves-Rodrigues, I., Hidalgo, E. and Ayté, J. 2011. Yox1 links MBF-dependent transcription to completion of DNA synthesis. EMBO Rep. 12:84-89.

40. Ivanova, T., Gómez-Escoda, B., Hidalgo, E. and Ayté, J. 2011. G1/S transcription and the DNA-synthesis checkpoint: common regulatory mechanisms. Cell Cycle 10:912-915.

41. Sansó, M., Vargas-Pérez, I., Quintales, L., Antequera, F., Ayté, J. and Hidalgo, E. 2011. Gcn5 facilitates Pol II progression, rather than recruitment to nucleosome-depleted stress promoters, in *Schizosaccharomyces pombe.* Nucleic Acids Res. 39:6369-6379.

42. García-Santamarina, S., Boronat, S., Espadas, G., Ayté, J., Molina, H. and Hidalgo, E. 2011. The oxidized thiol proteome in fission yeast – optimization of an ICAT-based method to identify H_2O_2-oxidized proteins. J. Proteomics 74:2476-2486.

43. Sansó, M., Vargas-Pérez, I., García, P., Ayté, J. and Hidalgo, E. 2011. Nuclear roles and regulation of chromatin structure by the stress-dependent MAP kinase Sty1 of Schizosaccharomyces pombe. Mol. Microbiol. 82:542-554.

44. Calvo, I.A., García, P., Ayté, J. and Hidalgo, E. 2012. The transcription factors Pap1 and Prr1 collaborate to activate antioxidant, but not drug tolerance, genes in response to H2O2. Nucleic Acids Res. 40:4816-4824.

45. Guerra-Moreno A, Alves-Rodrigues I, Hidalgo E, and Ayté J. 2012. Chemical genetic induction of meiosis in Schizosaccharomyces pombe. Cell Cycle 11:1621-1625.

46. Gabrielli, N., Ayté, J. and Hidalgo, E. 2012. Cells Lacking Pfh1, a Fission Yeast Homolog of Mammalian Frataxin Protein, Display Constitutive Activation of the Iron Starvation Response. J. Biol. Chem. 287:43042-43051.

47. García-Santamarina, S., Boronat, S., Calvo, I.A., Rodríguez-Gabriel, M., Ayté, J., Molina, H. and Hidalgo, E. 2013. Is oxidized thioredoxin a major trigger for cysteine oxidation? Clues from a redox proteomics approach. Antioxid. Redox Signal. 18:1549-56.

48. Calvo, I.A., Ayté, J. and Hidalgo, E. 2013. Reversible thiol oxidation in the H_2O_2-dependent activation of the transcription factor Pap1. J. Cell Sci. 126:2279-2284.

49. Fernández-Vázquez, J., Vargas-Pérez, I, Sansó, M., Buhne, K., Carmona, M., Paulo, E., Hermand, D., Rodríguez-Gabriel, M., Ayté, J., Leidel S. and Hidalgo, E. 2013. Modification of $tRNA^{Lys}_{UUU}$ by Elongator is essential for efficient translation of stress mRNAs. PLoS Genet. 9:e1003647.

50. Molero, C., Petrényi, K., González, A., Carmona, M., Gelis, S., Abrie, A., Strauss, E., Ramos, J., Dombradi, V., Hidalgo, E. and Ariño, J. 2013. The *Schizosaccharomyces pombe* fusion gene *hal3* encodes three distinct activities. Mol. Microbiol. 90:367-382.

51. Ivanova, T., Alves-Rodrigues, I., Gómez-Escoda, B., Dutta, C., DeCaprio, J.A., Rhind, N., Hidalgo, E. and Ayté, J. 2013. The DNA Damage and the DNA Replication Checkpoints Converge at the MBF Transcription Factor. Mol. Biol. Cell 24:3350-3357.

52. García-Santamarina, S., Boronat, S., Ayté, J. and Hidalgo, E. 2013. Methionine sulfoxide reductases revisited: Free methionine as a primary target of H_2O_2 stress in auxotrophic fission yeast. Mol. Microbiol. 90:1113-1124.

53. Calvo, I.A., Boronat, S., Domènech, A., García-Santamarina, S., Ayté, J. and Hidalgo, E. 2013. Dissection of a redox relay: H_2O_2-dependent activation of the transcription factor Pap1 through the peroxidatic Tpx1-thioredoxin cycle. Cell Rep. 5:1413-1424.

54. Paulo, E., García-Santamarina, S., Calvo, I.A., Carmona, M., Boronat, S., Domènech, A., Ayté, J. and Hidalgo, E. 2014. A genetic approach to study H_2O_2 scavenging in fission yeast – distinct roles of peroxiredoxin and catalase. Mol. Microbiol.92:246-257.

55. Boronat, S., Domènech, A., Paulo, E., Calvo, I.A., García-Santamarina, S., García, P., Encinar del Dedo, J., Barcons, A., Serrano, E., Carmona, M. and Hidalgo, E. 2014. Thiol-based H_2O_2 signalling in microbial systems. Redox Biol. 2:395-399.

56. García-Santamarina, S., Boronat, S., Domènech, A., Ayté, J., Molina, H. and Hidalgo, E. 2014. Monitoring *in vivo* reversible cysteine oxidation in proteins using ICAT and mass spectrometry. Nat. Protoc. 9:1131-1145.

57. García-Santamarina, S., Boronat, S. and Hidalgo, E. 2014. Reversible cysteine oxidation in hydrogen peroxide sensing and signal transduction. Biochemistry 53:2560-2580.

58. García, P., Paulo, E., Gao, J., Wahls, W.P., Ayté, J., Lowy, E. and Hidalgo, E. 2014. Binding of the transcription factor Atf1 to promoters serves as a barrier to phase nucleosome arrays and avoid cryptic transcription. Nucleic Acids Res. 42:10351-10359.

59. Boronat, S., García-Santamarina, S. and Hidalgo, E. 2015. Gel-free proteomic methodologies to study reversible cysteine oxidation and irreversible protein carbonyl formation. Free Radic. Res. 49:494-510.

60. Encinar del Dedo, J., Gabrielli, N., Carmona, M., Ayté, J., and Hidalgo, E. 2015. A cascade of iron-containing proteins governs the genetic iron starvation response to promote iron uptake and inhibit iron storage in fission yeast. PLoS Genet. 11:e1005106.

61. Materne, P., Anandhakumar, J., Migeot, V., Soriano, I., Yague-Sanz, C., Hidalgo, E., Mignion, C., Quintales, L., Antequera, F. and Hermand, D. 2015. Promoter nucleosome dynamics regulated by signaling through the CTD code. eLife 4:e09008.

62. Vázquez, B., Soto, T., del Dedo, J.E., Franco, A., Vicente, J., Hidalgo, E., Gacto, M., Cansado, J. and Madrid, M. 2015. Distinct biological activity of threonine monophosphorylated MAPK isoforms during the stress response in fission yeast. Cell. Signal. 27:2534-2542.

63. Garcia, P., Encinar del Dedo, J., Ayte, J.* and Hidalgo, E.* 2016. Genome-wide screening of regulators of catalase expression: role of a transcription complex and histone and tRNA modification complexes on adaptation to stress. J. Biol. Chem. 291:790-799.
*Corresponding authors.

64. Alves-Rodrigues, I., Ferreira, P.G., Moldón, A., Vivancos, A.P., Hidalgo, E., Guigó, R and Ayté, J. 2016. Spatiotemporal control of forkhead binding to DNA regulates the meiotic gene expression program. Cell Rep. 14:885-895.

65. Gaspa, L., González-Medina, A., Hidalgo, E. and Ayté, J. 2016. A functional genome-wide genetic screening identifies new pathways controlling the G1/S transcriptional wave. Cell Cycle 15:720-729.

66. Shah, M., Su, D., Scheliga, J. S., Pluskal, T., Boronat, S., Motamedchaboki, K., Campos, A.R., Qi, F., Hidalgo, E., Yanagida, M., Wolf, D.A. 2016. A transcript-specific eIF3 complex mediates global translational control of energy metabolism. Cell Rep. 16:1-12.

67. Boronat, S., Domènech, A. and Hidalgo, E. 2017. Proteomic characterization of reversible thiol oxidations in proteomes and proteins. Antioxid. Redox Signal. 26:329-344.

68. Boronat, S., Domènech, A., Carmona, M., García-Santamarina, S., Bañó, M.C., Ayté, J. and Hidalgo, E. 2017. Lack of a peroxiredoxin suppresses the lethality of cells devoid of electron donors by channelling electrons to oxidized ribonucleotide reductase. PLoS Genet. 13:e1006858.

69. Salat-Canela, C., Paulo, E., Sánchez-Mir, L., Carmona, M., Ayté, J., Oliva, B. and Hidalgo E. 2017. Deciphering the role of the signal- and Sty1 kinase-dependent phosphorylation of the stress-responsive transcription factor Atf1 on gene activation. J. Biol. Chem. 292:13635-13644.

70. Sánchez-Mir, L., Salat-Canela, C., Paulo, E., Carmona, M., Ayté, J., Oliva, B. and Hidalgo, E. 2018. Phospho-mimicking Atf1 mutants bypass the transcription activating function of the MAP kinase Sty1 of fission yeast. Curr. Genet. 64:97-102.

71. Domènech, A., Ayté, J., Antunes, F. and Hidalgo, E. 2018. Using in vivo oxidation status of one- and two-component redox relays to determine H_2O_2 levels linked to signaling and toxicity. BMC Biol. 16:61.

72. Knezevic, I., González-Medina, A., Gaspa, L., Hidalgo, E. and Ayté, J. 2018. The INO80 complex activates the transcription of S-phase genes in a cell cycle-regulated manner. FEBS J. 285:3870-3881.

73. González-Medina, A., Hidalgo, E. and Ayté, J. 2019. Gcn5-mediated acetylation at MBF-regulated promoters induces the G1/S transcriptional wave. Nucleic Acids Res. 47:8439-8451.

74. Carmona, M., de Cubas, L., Bautista, E., Moral-Blanch, M., Medraño-Fernández, I., Sitia, R., Boronat, S., Ayté, J. and Hidalgo, E. 2019. Monitoring cytosolic H_2O_2 fluctuations arising from altered plasma membrane gradients or from mitochondrial activity. Nat. Commun. 10:4526.

75. Henríquez-Olguín, C., Boronat, S., Cabello-Verrugio, C., Jaimovich, E., Hidalgo, E. and Jensen, T.E. 2019. The Emerging Roles of Nicotinamide Adenine Dinucleotide Phosphate Oxidase 2 in Skeletal Muscle Redox Signaling and Metabolism. Antioxid. Redox Signal. 31:1371-1410.

76. Fraile, R., Sánchez-Mir, L., and Hidalgo, E. 2019. A new adaptation strategy to glucose starvation: modulation of the gluconate shunt and pentose phosphate pathway by the transcriptional repressor Rsv1. FEBS J. 287:874-877.

77. Marte, L., Boronat, S., García-Santamarina, S., Ayté, J., Kitamura, K. and Hidalgo, E. 2020. Identification of ubiquitin-proteasome system components affecting the degradation of the transcription factor Pap1. Redox Biol. 28:101305.

78. Cabrera, M., Boronat, S., Marte, L., Vega, M., Pérez, P., Ayté, J. and Hidalgo, E. 2020. Chaperone-facilitated aggregation of thermo-sensitive proteins shields them from degradation during heat stress. Cell Rep. 30:2430–2443.

79. Sansó, M., Parua, P.K., Pinto, D., Svensson, J.P., Pagé, V., Bitton, D.A., MacKinnon, S., García, P., Hidalgo, E., Bähler, J., Tanny, J.C. and Fisher, R.P. 2020. Cdk9 and H2Bub1 signal to Clr6-CII/Rpd3S to suppress aberrant antisense transcription. Nucleic Acids Res. 48:7154-7168.

80. Sánchez-Mir, L., Fraile; R., Ayté, J. and Hidalgo, E. 2020. Phosphorylation of the transcription factor Atf1 at multiple sites by the MAP kinase Sty1 controls homologous recombination and transcription. J. Mol. Biol. 432:5430-5446.

81. Boronat, S., Marte, L., Vega, M., García-Santamarina, S., Cabrera, M., Ayté, J. and Hidalgo, E. 2020. The Hsp40 Mas5 connects protein quality control and the general stress response through the thermo-sensitive Pyp1. iScience 23:101725.

82. Boronat, S., Cabrera, M. and Hidalgo, E. 2020. Spatial sequestration of misfolded proteins as an active chaperone-mediated process during heat stress. Curr. Genet. 67:237-243.

83. de Cubas, L., Pak, V.V., Belousov, V.V., Ayté, J. and Hidalgo, E. 2021. The mitochondria-to-cytosol H_2O_2 gradient is caused by peroxiredoxin-dependent cytosolic scavenging. Antioxidants 10:731.

84. Corral-Ramos, C., Barrios, R., Ayté, J. and Hidalgo, E. 2021. TOR and MAP kinase pathways synergistically regulate autophagy in response to nutrient depletion in fission yeast. Autophagy 23:1-16.

85. Hümmer, S., Borao, S., Guerra-Moreno, A., Cozzuto, L., Hidalgo, E. and Ayté, J. 2021. Cross talk between the upstream exon-intron junction and Prp2 facilitates splicing of non-consensus introns. Cell Rep. (accepted “in principle” – format changes pending).

86. Salat-Canela, C., Carmona, M., Martín-García, R., Pérez, P., Ayté, J. and Hidalgo, E. 2021. Stress-dependent inhibition of polarized cell growth through unbalancing the GEF/GAP regulation of Cdc42. Cell Rep. (accepted “in principle” – format changes pending).