CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	Elena		
Family name	Hidalgo		
Gender	Female		
Open Researcher and Contributor ID (ORCID) 0000-0002-3768-6785			

A.1. Current position

Position	Full Professor		
Initial date	2010		
Institution	Universitat Pompeu Fabra		
Department/Center			
Country			
Key words	redox biology, H_2O_2, MAP kinase, transcription, signaling, stress responses, aging, mitochondrial metabolism, autophagy		

A.2. Previous positions (research activity interuptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
1992-1997	Postdoc/Harvard Univ./USA
1998-1999	Postdoc/ICRF/UK
2000-2009	Professor/UPF/Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Bachelor in Pharmacy	Universidad de Barcelona	1986
Doctor in Pharmacy	Universidad de Barcelona	1991

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

Short bio

I graduated in Pharmacy at the Universitat de Barcelona, where I obtained her PhD at the Biochemistry Department in 1991. I performed two postdoctoral stages in the labs of Bruce Demple (Harvard School of Public Health, Boston) and Nic Jones (Imperial Cancer Research Fund, London). I was recruited by Universitat Pompeu Fabra (Barcelona) in 2000, where I am is now full professor. As a University member, I am both teaching and working on research as the co-director (with José Ayté) of the Oxidative Stress and Cell Cycle Group. As can be seen from our list of publications, José Ayté's expertise is in the field of cell cycle regulation, while I lead the redox biology part of the group. We both share fission yeast as a model system.

Indicators of Quality in Scientific Production

Published articles: 103
Published articles in Q1: 82 (from which 40 articles are in D1)
h-index: 37
Thesis supervised: 13 (E. Castillo, A. Vivancos, A. Zuin, M. Sansó, N. Gabrielli, I. Calvo, S. García-Santamarina, E. Paulo, A. Domènech, L. Marte, C. Salat-Canela, R. Fraile, L. de Cubas). On-going supervised Thesis: 4 (R. Barrios, F. Gómez, M.F. Crevatín, R. Gracia).
6 evaluated research periods (last: 2018-2023)
6 evaluated teaching periods (last: 2017-2022)
ICREA Academia (2010-2014) (2015-2019) (2021-2025)

Research interests and scientific contributions

Oxidative stress constitutes the basis of physio-pathological situations such as neurodegenerative diseases and aging. However, reactive oxygen species such as hydrogen peroxide also exert signaling roles: they may activate antioxidant cascades, and endogenous increases of these species may even improve the overall fitness of the cell and trigger lifespan. Our lab uses the eukaryotic model system *Schizosaccharomyces pombe* to study the toxicity associated to oxygen-derived species, specifically protein oxidation and aggregation, and to describe the signaling processes controlled by oxidants. Of note, during the last years we have shifted towards working with mitochondrial metabolism and mitochondrial dynamics, since this compartment is an essential source of reactive oxygen species and a hub of redox signaling and lifespan control.

We collaborate with many fission yeast researchers (in fact, we organized the international biannual Pombe meeting in Barcelona in 2019). Currently, we have two manuscripts under review with our international collaborators (Genome Biol. with Jason Tanny, Montreal, Canada and FRBM with Olga Lyublinskaya, St. Petersburg, Russia). Lastly, we try to contribute to general science with ideas and resources, such as the generation and optimization of genetically encoded reporters to measure oxidative stress in vivo.

I have managed to receive Spanish funding since we started to work in Spain, I have more than 100 publications to spread the generated knowledge. I have also received funding to support part of our proteomic-based research from the Horizon 2020 Program.

Regarding teaching, I coordinate or co-coordinate 3 subjects of Biology or Medicine degrees (Biochemistry III, in second year of Biology; Biotechnology, 4th year of Biology; and Life Sciences III, second year of Medicine) and one in the Master of Biomedical Research (UPF).

Regarding evaluation, I have been engaged during the last five years in evaluating for the Catalan Government (president of the Life Sciences Area of the Research Evaluation Committee, AQU) and for ERC (Consolidator LS1 panel), among others.

Dissemination activities – to the scientific community and to society

We have been invited to disseminate our findings in scientific meetings (such as EMBO meetings and Gordon Conferences…), but also to the general audience (cátedra Quaes-UPF; Ideas para un envejecimiento saludable; November 2021).

Training of young and future researchers

Our former PhD students are occupying academic or technology positions of relevance. These are their current positions:

1. Ana Vivancos: leader of the proteomic facility at Vall d'Hebron, Barcelona, Spain.
2. Esther Castillo: she works as a senior scientist in Vall d'Hebron (Barcelona)
3. Alice Zuin: Post-doctoral fellow at Parc Recerca Barcelona, Spain (Bernat Crosas's lab).
4. Miriam Sansó: tenure track PI at Son Espases Hospital (Palma de Mallorca, Spain).
5. Isabel Calvo: Marie Curie postdoctoral fellow at CIMA-Universidad de Navarra.
6. Sarela García-Santamarina: Research Associate in ITQB NOVA, Lisbon, Portugal.
7. Esther Paulo: Senior Researcher at Real Deal Milk biotech, Barcelona
8. Natalia Gabrielli: Post-doctoral fellow at EMBL Heidelberg (Germany)
9. Alba Domènech: Researcher at VITEC (Centro Tecnológico del Vino), Falset, Tarragona
10. Luis Marte: Data Scientist at Eurecat Foundation, Barcelona.
11. Claudia Salat-Canela: post-doctoral fellow at Aleks Vjestica's lab, Lausanne, Swiss.
12. Rodrigo Fraile: post-doctoral fellow at Mayka Sánchez's lab, UIC, Barcelona.
13. Laura de Cubas: post-doctoral fellow at Tobias Dick's lab, Heidelberg Univ., Germany

Part C. RELEVANT MERITS IN THE LAST 5 YEARS (2019-2025) *(sorted by typology)*

C.1. Selected publications (10 selected from 32)

(CA: corresponding author) (Complete list of publication can be found at: https://www.upf.edu/web/osccg/lab-members/-/asset_publisher/2pcLBvZkyksf/content/hidalgo-elena/maximized)

1. Barrios, R., Vega, M., Gracia, R., Boronat, S., García-Santamarina, S., Tanny, J.C., Ayté, J. and **Hidalgo, E. (CA).** 2025. Distinct roles of histone H2B ubiquitination at promoters and coding regions of Pol II-transcribed stress genes. **Genome Biol.** (under review).

2. Vega, M., Barrios, R., Fraile, R., de Castro Cogle, K., Castillo, D., Anglada, R., Casals, F., Ayté, J., Lowy-Gallego, E. and **Hidalgo, E. (CA).** 2023. Topoisomerase 1 facilitates nucleosome reassembly at stress genes during recovery. **Nucleic Acids Res.** 51:12161-12173.

3. Salat-Canela, C., Pérez, P., Ayté, J. and **Hidalgo, E. (CA).** 2023. Stress-induced cell depolarization through the MAP kinase-Cdc42 axis. **Trends Cell Biol.** 33:124-137.

4. Fraile, R., Sánchez-Mir, L., Murciano-Julià, G., Ayté, J. and **Hidalgo, E. (CA).** 2022. A stress-blinded Atf1 can fully assemble heterochromatin in a RNAi-independent minimal *mat* locus but impairs directionality of *mat2/3* switching. **iScience** 25:104820.

5. Salat-Canela, C., Carmona, M., Martín-García, R., Pérez, P. (CA), Ayté, J. (CA) and **Hidalgo, E. (CA).** 2021. Stress-dependent inhibition of polarized cell growth through unbalancing the GEF/GAP regulation of Cdc42. **Cell Rep.** 37:109951.

6. Corral-Ramos, C., Barrios, R., Ayté, J. and **Hidalgo, E. (CA).** 2022. TOR and MAP kinase pathways synergistically regulate autophagy in response to nutrient depletion in fission yeast. **Autophagy** 18:375-390.

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

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

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

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

C.2. Presentations to conferences (as organizer or invited speaker)

<u>As organizer:</u>

EMBO Workshop: 10th Fission Yeast Meeting 2019. Barcelona. July 2019. 450 attendees. Organizers: José Ayté, Rosa Aligué and Elena Hidalgo.

<u>As invited speaker:</u>

1. SfRBM 2023 & SFRRI 21st Biennial Meeting. Punta del Este, Uruguay, November 2023 (invited speaker and session chair).
2. Annual Meeting of the Society for Free Radical Research – Europe. Vienna, Austria, June 2023.

3. The 11th International Fission Yeast Meeting. Protein quality control and Stress Response (program organizer and session chair). Hiroshima, Japan, June 2023.
4. 13 Reunión de la Red Española de Levaduras, Escorial, Madrid, December 2022.
5. EMBO meeting: Thiol oxidation in biology: Biochemical mechanisms to physiological outcomes. Sant Feliu de Guixols, Girona, September 2022.
6. Gordon Research Conference: Thiol-based redox regulation and signaling. Castelldefels, Spain, July 2022 (Discussion leader).
7. Cátedra Quaes: Ideas para un envejecimiento saludable. Barcelona, November 2021 (invited speaker and organizer of online symposium)
8. 12 Reunión de la Red Española de Levaduras, Escorial, Madrid, December 2019.
9. SPP1710 Conference: Thiol-based switches and redox-regulation – from microbes to men. Sant Feliu de Guixols (Girona), September 2019.
10. EMBO Workshop: Protein quality control: from mechanisms to disease. Costa de la Calma (Mallorca), April-May 2019.

C.3. Projects or research lines (as PI or team member)

Project Title: Oxidative Stress and Cell Cycle Group
Funding Agency: Generalitat de Catalunya (2021 SGR 00007)
Duration: 2023-25
Amount: 60,000 euros
Principal Investigator: Elena Hidalgo

Project Title: Biología redox: desde fisiología y señalización hasta toxicidad
Funding Agency: Ministerio de Ciencia e Innovación (PID2021-122837NB-I00)
Duration: 2022-25
Amount: 314,600 euros
Principal Investigator: Elena Hidalgo

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 (EPIC-XS-0000145)
Duration: 2020-21
Amount: ~ 15,000 euros
Principal Investigator: Elena Hidalgo and Marga Cabrera

Project Title: Niveles de H_2O_2 ligados a proteotoxicidad y a señalización
Funding Agency: Minis. de Ciencia, Inn. y Univ. (PGC2018-093920-B-I00)
Duration: 2019-21
Amount: 232,925 euros
Principal Investigator: Elena Hidalgo

Project Title: Redox Biology and Medicine Network
Funding Agency: Minis. de Ciencia, Inn. y Univ. (RED2018-102576-T)
Duration: 2020-21
Amount: 20,500 euros
Principal Investigator from UPF: Elena Hidalgo

Project Title: Oxidative Stress and Cell Cycle Group
Funding Agency: Generalitat de Catalunya (2017 SGR 539)
Duration: 2018-20
Amount: 37,275 euros
Principal Investigator: Elena Hidalgo