

**CURRICULUM VITAE ABREVIADO (CVA)**

**IMPORTANT** – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

**Part A. PERSONAL INFORMATION**

First name	Antonio		
Family name	Miranda-Vizuet		
Gender (*)		Birth date	
ID number (DNI)			
e-mail		URL Web	
Open Researcher and Contributor ID (ORCID) (*)			

(\*) Mandatory

**A.1. Current position**

Position	Staff Scientist (Científico Titular) CSIC. (Investigador Científico pending BOE publication)		
Initial date	1st October 2009		
Institution	Instituto de Biomedicina de Sevilla (IBIS-CSIC)		
Department/Center	Homeostasis Redox Group		
Country	Spain	Teleph. number	
Key words	Aconitase, aggrephagy, autophagy, disulfidptosis, fatty-acid ligase, ferroptosis, glutathione, neurodegenerative diseases, peroxiredoxin, protein aggregation		

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

Period	Position/Institution/Country/Interruption cause
2004-2009	Ramón y Cajal Research Position, Universidad Pablo de Olavide, Sevilla, Spain
2001-2004	Junior Principal Investigator Position, Karolinska Institute, Stockholm, Sweden
1996-2000	Postdoctoral Position, Karolinska Institute, Stockholm, Sweden
1995-1995	Postdoctoral Position, Hospital Virgen del Rocío, Córdoba, Spain

**A.3. Education**

PhD, Licensed, Graduate	University/Country	Year
PhD. Biological Sciences	Córdoba University, Spain	1994
Lic. Biological Sciences	Córdoba University, Spain	1989

(Include all the necessary rows)

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

Dr. Antonio Miranda Vizuet is Staff Scientist (Científico Titular) at the Spanish Research Council (CSIC) since 2009 and for the last 34 years he has worked on different aspects of the biological processes regulated by the thioredoxin and glutathione/glutarredoxin redox systems. He completed his Doctoral Thesis at the University of Córdoba (1990-1994) and during that period he identified and characterized new members of both protein families in *Escherichia coli*. In addition, he completed two short stays of 3 and 4 months respectively in the laboratory of Prof. Arne Holmgren at Karolinska Institute (Stockholm, Sweden). During 1995 he performed a postdoctoral stay at Reina Sofía University Hospital (Córdoba, Spain) working on apoptotic mechanisms in lymphoid cells. In 1996 he joined the laboratory of Prof. Gianni

Spyrou at Karolinska Institute (Stockholm, Sweden) as a postdoctoral researcher (1996-2000) where he participated in the discovery and characterization of new members of the thioredoxin family in both yeast and mammals. He then obtained a junior PI position funded by the Swedish Research Council for 4 years (2001-2004) to investigate the function of a new class of thioredoxin proteins expressed exclusively in mammalian spermatozoa which, in addition to several publications, it also resulted in two patents. In 2005 he returned to the Spanish Science and Technology System through a contract from the Ramón y Cajal Program at the Department of Cellular Biology, Pablo de Olavide University (Seville, Spain), where he began his current line of research focused on the regulation of redox homeostasis using the model organism *Caenorhabditis elegans*. In 2009 he obtained a position as CSIC Staff Scientist at the Institute of Biomedicine of Seville (IBiS), where he currently develops his research, studying various aspects of redox biology and, more specifically, its impact on diverse models of neurodegenerative diseases in *C. elegans*. In 2024 obtained an “Investigador Científico” position at CSIC by internal promotion (pending BOE publication).

**SUMMARY OF ACHIEVEMENTS BY DORA PRINCIPLES:** **Research six-year periods (Sexenios):** 5. **Publications:** 107 PUBMED publications. **Citations (WoS):** 8822 citations (average of 77 citations per article) and an **index h=37**. **Scholarships and contracts:** **Doctorate:** FPI and EMBO short-term scholarship; **Postdoctoral:** Postdoctoral Contracts from the ISCIII, Ministry of Science and Education and Marie Curie Program of the EU; **Junior Principal Investigator:** Swedish Research Council Contract; **Senior Principal Investigator:** Ramón y Cajal Contract and CSIC Staff Scientist. **Research Projects:** Participation in 32 projects of which 17 as PI (Ake Wiberg Foundation, Swedish Research Council, ISCIII/FIS, Junta de Andalucía and MINECO). **Conferences:** 13 invited conferences; 33 Oral Communications; 60 Posters. **Directed theses:** 7+1 in progress. **Postdoctoral Fellows:** 3+2 in progress. **Technicians:** 3+1 in progress. **Patents and Utility Models:** 2 Patents; **Supervision:** 13 Final Degree Projects; 5 Final Master Projects. **Internationalization:** 9 years at the Karolinska Institute in Stockholm, Sweden. **Collaborators stays:** Hosted staff from the University of the Republic, Montevideo, Uruguay; University of Bucharest, Romania; University of Guanajuato, Mexico; University of Galway, Ireland; Federal University of Santa Catarina, Florianópolis, Brazil. **Dissemination:** Various contributions to local, regional and national press articles as well as contributions to press releases and news at CSIC and IBiS webpages. **Evaluation:** AEI and CAIXA project evaluator.

### **Part C. RELEVANT MERITS** (sorted by typology)

#### **C.1. Publications** (10 selected from 25 publications from the period 2019-2024)

\* Equally contributed as senior and corresponding authors

1. Petrovic D, Slade L, Paikopoulos Y, (Miranda-Vizuete A, 19/28), Filipovic M (2025) [Ergothioneine improves healthspan of aged animals by enhancing cGPDH activity through CSE-dependent persulfidation](#). *Cell Metabolism*, in press. (IF:27.7)
2. Colino-Lage H, Guerrero-Gómez D, Gómez-Orte E, (10 additional authors), Cabello J\*, Miranda-Vizuete A\* (2024) [Regulation of \*Caenorhabditis elegans\* HLH-30 subcellular localization dynamics: Evidence for a redox-dependent mechanism](#). *Free Radic Biol Med*. 223: 369-383. (IF:7.1)
3. Martí-Andrés P, Finamor I Torres-Cuevas I, (Miranda-Vizuete A, 17/21), Sastre J (2024) [TRP14 is the rate-limiting enzyme for intracellular cystine reduction and regulates proteome cysteinylation](#). *EMBO J*. 43: 2789-2812. (IF:9.5)
4. Mann J, Reznik E, Santer M, (Miranda-Vizuete A, 10/12), Stockwell BR (2024) [Ferroptosis inhibition by oleic acid mitigates iron-overload-induced injury](#). *Cell Chem Biol*. 31: 249-264. (IF:6.6)

5. Xia Q, Casas-Martínez JC, Zarzuela E, Muñoz J, **Miranda-Vizuete A**, Goljanek-Whysall K, McDonagh B (2023) [Peroxiredoxin 2 is required for redox mediated adaptation to exercise](#). *Redox Biol.* 60:102631. (IF:10.7)
6. Ghenea S, Chiritoiu M, Tacutu R, **Miranda-Vizuete A**, Petrescu SM (2022) [Targeting EDEM protects against ER stress and improves development and survival in \*C. elegans\*](#). *PLoS Genet.* 18:e1010069. (IF:4.5)
7. Martina JA, Guerrero-Gómez D, Gómez-Orte E, Bárcena JA, Cabello J, **Miranda-Vizuete A\***, Puertollano R\* (2021) [A conserved cysteine-based redox mechanism sustains TFEB/HLH-30 activity under persistent stress](#). *EMBO J.* 40:e105793. (IF:14.0)
8. Köhnlein K, Urban N, Guerrero-Gómez D, (5 additional authors), **Miranda-Vizuete A**, Klotz LO (2020) [A \*Caenorhabditis elegans\* ortholog of human selenium-binding protein 1 is a pro-aging factor protecting against selenite toxicity](#). *Redox Biol.* 28:101323. (IF:11.8)
9. Guerrero-Gómez D, Mora-Lorca JA, Sáenz-Narciso B, (14 additional authors), Cabello J\*, **Miranda-Vizuete A\*** (2019) [Loss of glutathione redox homeostasis impairs proteostasis by inhibiting autophagy-dependent protein degradation](#). *Cell Death Differ.* 26:1545-1565. (IF:10.7)
10. Sanzo-Machuca Á, Monje-Moreno JM, Casado-Navarro R, (8 additional authors), **Miranda-Vizuete, A** (2019) [Redox-dependent and redox-independent functions of \*Caenorhabditis elegans\* thioredoxin 1](#). *Redox Biol.* 24: 101178. (IF:10.0)

*In addition to the published articles, we have two more manuscripts currently under evaluation.*

- a). Landschaft-Berliner D, Goldstein K, Teichman G, (**Miranda-Vizuete A 16/18**), Rechavi O (2024) [A tunable and druggable mechanism to delay forgetting of olfactory memories in \*C. elegans\*](#). *Nature Neuroscience*, under second revision (manuscript NN-A86937). (IF:21.2)
- b) Valenzuela-Villatoro M, Guerrero-Gómez D, Gómez-Orte E, (10 additional authors), Cabello J\*, **Miranda-Vizuete A\*** (2024) [The transsulfuration pathway suppresses the embryonic lethal phenotype of glutathione reductase mutants in \*Caenorhabditis elegans\*](#). *G3*, under second revision (manuscript G3-2024-405509-T) (IF:2.1)

## **C.2. Congress** (Selected from 13 invited conferences; 33 Oral Communications; 60 Posters)

*Title:* Glutathione, protein aggregation and ferroptosis in *C. elegans*

*Contribution:* Invited Conference. *Presenting Author:* Antonio Miranda Vizuete

*Congress:* Redox Research Rheinland, Düsseldorf, Germany. January 2023

*Title:* Cystine reduction and transsulfuration pathways suppress the embryonic lethal phenotypes of *C. elegans* glutathione reductase *gsr-1* mutants

*Contribution:* Invited Conference. *Presenting Author:* Antonio Miranda Vizuete

*Congress:* VIII Spanish Worm Meeting, Logroño, Spain, October 2022

*Title:* Glutathione reductase protects *Caenorhabditis elegans* against proteotoxic stress

*Contribution:* Invited Conference. *Presenting Author:* Antonio Miranda Vizuete

*Congress:* Proteostasis in Aging and Disease, Split, Croatia, November 2017

*Title:* Glutathione reductase protects *Caenorhabditis elegans* against proteotoxic stress

*Contribution:* Invited Conference. *Presenting Author:* Antonio Miranda Vizuete

*Congress:* FEBS Advance Lecture Course on Redox Regulation of Metabolic Processes, Spetses, Greece, September 2016

### C.3. Research projects *(Selected from 32 projects of which 17 acted as PI)*

*Project Title:* Exploring novel roles of glutathione in proteostasis maintenance.  
*Funding Agency:* Ministerio Ciencia, Innovación y Universidades (PID2021-122311NB-I00)  
*Period:* 1 Sept 2022 to 31 August 2025 *Amount:* 211,750 €  
*Principal Investigator:* Antonio Miranda Vizuete

*Project Title:* Redox regulation of autophagy in proteostasis maintenance. Protective role of reduced glutathione  
*Funding Agency:* Junta de Andalucía (PY20\_00229)  
*Period:* 23 June 2020 to 31 March 2023 *Amount:* 90,000 €  
*Principal Investigator:* Antonio Miranda Vizuete

*Project Title:* Role of glutathione in autophagy regulation and proteostasis maintenance.  
*Funding Agency:* Ministerio Ciencia, Innovación y Universidades (PGC2018-094276-B-I00)  
*Period:* 1 January 2019 to 31 Diciembre 2021 *Amount:* 169,400 €  
*Principal Investigator:* Antonio Miranda Vizuete

*Project Title:* Mecanismos moleculares y celulares del glutatión en el mantenimiento de la proteostasis.  
*Funding Agency:* Ministerio de Economía y Competitividad (BFU2015-64408-P)  
*Period:* 1 January 2016 to 31 December 2018 *Amount:* 117,600 €  
*Principal Investigator:* Antonio Miranda Vizuete

*Project Title:* Análisis molecular del papel protector de la glutatión reductasa y del glutatión en modelos de la enfermedad de Alzheimer y Parkinson en el nematodo *Caenorhabditis elegans*.  
*Funding Agency:* Instituto de Salud Carlos III (PI11/00072)  
*Period:* 1 January 2012 to 31 December 2014 *Amount:* 54,119 €  
*Principal Investigator:* Antonio Miranda Vizuete

*Project Title:* Estudio de la función moduladora del sistema tiorredoxina en la señalización de la ruta de la insulina en *Caenorhabditis elegans*.  
*Funding Agency:* Junta de Andalucía (CVI-3629)  
*Period:* 1 January 2009 to 31 Diciembre 2013 *Amount:* 243,986 €  
*Principal Investigator:* Antonio Miranda Vizuete

*Project Title:* Función de los sistemas tiorredoxina en modelos *in vivo* de Alzheimer, Parkinson y Esclerosis Lateral Amiotrófica en el nematodo *Caenorhabditis elegans*.  
*Funding Agency:* Instituto de Salud Carlos III (PI080557)  
*Period:* 1 January 2009 to 31 Diciembre 2011 *Amount:* 257,730 €  
*Principal Investigator:* Antonio Miranda Vizuete

### C.4. Contracts, technological or transfer merits

*Inventors:* Peter Sutovsky, **Antonio Miranda-Vizuete**  
*Title:* **METHODS AND COMPOSITIONS FOR EVALUATION OF FERTILITY**  
*Patent Number:* 7,485,430 B2 *Priority Country:* USA *File date:* 9 February 2009  
*Entity:* Columbia-Missouri University, USA  
*Countries:* Patent Cooperation Treaty (PCT) *Current status:* Not licensed

*Inventors:* Peter Sutovsky, **Antonio Miranda-Vizuete**  
*Title:* **METHODS AND COMPOSITIONS FOR DETECTING SPERMATOZOA OR SEMEN IN A SAMPLE**  
*Patent Number:* 7,741,058 B2 *Priority Country:* USA *File date:* 22 June 2010  
*Entity:* Columbia-Missouri University, USA  
*Countries:* Patent Cooperation Treaty (PCT) *Current status:* Not licensed

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