



CURRICULUM VITAE (CVA)

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Part A. PERSONAL INFORMATION

CV date 01/03/2022

First name	Antonio		
Family name	Miranda Vizuete		
Gender (*)	Male	Birth date	28/04/1966
Social Security, Passport, ID number	30511557X		
e-mail	amiranda-ibis@us.es	URL Web	https://amvredoxhomeostasi.wixsite.com/redoxlab
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-6856-5396		

(*) Mandatory

A.1. Current position

Position	Staff Researcher (Científico Titular) CSIC		
Initial date	01/10/2009		
Institution	Consejo Superior de Investigaciones Científicas, CSIC		
Department/Center	Instituto de Biomedicina de Sevilla, IBIS		
Country	Spain	Teleph. number	637121741
Key words	Autophagy, Caenorhabditis elegans, Ferroptosis, Glutaredoxin, Glutathione, HLH-30/TFEB, Neurodegenerative Diseases, Protein Aggregation, Proteostasis, Thioredoxin, Transsulfuration, Redox		

A.2. Previous positions (research activity interruptions, art. 14.2.b)

Period	Position/Institution/Country/Interruption cause
2004-2009	Ramón y Cajal Fellow, Universidad Pablo de Olavide, Spain
2001-2004	Junior PI, Karolinska Institute, Stockholm, Sweden
1996-2000	Postdoctoral, Karolinska Institute, Stockholm, Sweden

A.3. Education

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

Part B. CV SUMMARY (4907 characters, including spaces)

Dr. Antonio Miranda Vizuete is a Staff Scientist (Científico Titular) at the Spanish Research Council (CSIC) since 2009 and during the last 31 years he has worked on different aspects of redox regulated biological processes mediated by the thioredoxin and glutathione systems. He carried out his Doctoral Thesis at the University of Córdoba (1990-1994) under the direction of Drs. Carmen Pueyo de la Cuesta and Juan López Barea and during that period he identified and characterized new members of both protein families in *Escherichia coli*. In addition, he made two short stays of 3 and 4 months respectively at the laboratory of Prof. Arne Holmgren at Karolinska Institute (Stockholm, Sweden). During 1995 he held a postdoctoral position at the Hospital Universitario Reina Sofía (Córdoba, Spain) under the supervision of Dr. Rafael Ramírez Chamond, working on apoptotic mechanisms in lymphoid cells. In 1996 he joined as postdoctoral researcher the laboratory of Prof. Giannis Spyrou at Karolinska Institute (1996-2000) where he participated in the discovery and



characterization of novel members of the thioredoxin family in both yeast and mammals. Next, he obtained a junior PI position funded by Swedish Research Council for 4 years (2001-2004) to investigate the function of a new class of thioredoxin proteins exclusively expressed in mammalian spermatozoa. In 2005 he returned to the Spanish Science and Technology System through a contract from the Ramón y Cajal Program at the Department of Cell Biology, Pablo de Olavide University (Seville, Spain), where he started his current line of research focused on the regulation of redox homeostasis using the model organism *Caenorhabditis elegans*. In 2009 he obtained a CSIC Staff Scientist position at the Institute of Biomedicine of Seville (IBiS), where he currently develops his research, focused on diverse aspects of redox biology and, more specifically, its impact on diverse models of neurodegenerative diseases in *C. elegans*.

As summarized above, Dr. Miranda-Vizuete has made key contributions in the field of Redox Biology by identifying and characterizing the function of new members of the two main redox systems in all organisms, the thioredoxin and glutathione/glutaredoxin systems. Importantly, some of the new proteins identified in his career have been demonstrated to be implicated in human diseases like male infertility and ciliary dyskinesia as well as in neurodegenerative diseases and aging. The results of his research have been reported in 99 publications indexed in PUBMED, many of them in highly prestigious journals (*Nature Structural Biology*, *EMBO J.*, *PNAS*, *Redox Biology* or *J. Biol. Chem.* among others). He has a total of 6903 citations (average of 67 citations per article) and an *h-index*=34. Dr. Miranda-Vizuete has obtained several fellowships and contracts: a) FPI and EMBO short term fellowship for his PhD period; b) Postdoctoral Fellowships from ISCIII, former Ministry of Science and Education and EU Marie Curie Program; c) Swedish Research Council as Junior PI at Karolinska Institutet; d) Ramón y Cajal contract at Universidad Pablo de Olavide. As PI he has directed a total of 16 research projects from public competitive calls (Ake Wiberg Foundation, Swedish Research Council, ISCIII / FIS, Junta de Andalucía and MINECO). During the 20 years as PI, Dr. Miranda-Vizuete has established very fruitful collaborations both at national and international level as reflected by the number of different groups coauthoring his publications as last author and has become an influential reference in the *C. elegans* Redox Biology field. Regarding his contributions to the society he has two patents aimed to the use of sperm thioredoxins as markers for male infertility and currently collaborates with the Biotech company ADM/Biópolis in its *C. elegans* program aimed to identify novel nutraceutical compounds with antiaging effect.

Dr. Miranda-Vizuete has directed and supervised a multidisciplinary group of biologists, biotechnologists and pharmacists, which has resulted in the defense of six doctoral theses (plus two more in progress), as well as the direct supervision of four postdoctoral researchers. Furthermore, he has supervised 11 Final Degree and 5 Master Degree theses. His lab has hosted several visiting researchers from national (Córdoba, Granada, Jaén and Salamanca Universities) and international institutions (University of the Republic, Montevideo, Uruguay; University of Bucharest, Romania; University of Guanajuato, Mexico; University of Galway, Ireland). Finally, Antonio Miranda Vizuete has given several guest lectures in national and international congresses and seminars in American and European Universities. He has also been a member of the organizing committee of the European *C. elegans* Meeting held in Seville in 2008. He currently acts as *ad hoc* review for several scientific publications.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (10 selected out of 50 publications in the last 10 years)

1. 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. Impact factor: **11.6**. Quartile in *Biochemistry and Molecular Biology (JCR)*: **D1/Q1** (22/298). **Equally contributed as senior and correspondence authors.*
2. Guerrero-Gómez D, Mora-Lorca JA, Sáenz-Narciso B, ...(19/19)... Miranda-Vizuete A (2019) [Loss of glutathione redox homeostasis impairs proteostasis by inhibiting autophagy-dependent protein degradation.](#) *Cell Death Differ.* 26:1545-1565. Impact factor: **10.7**. Quartile in *Biochemistry and Molecular Biology (JCR)*: **D1/Q1** (19/297).



3. Sanzo-Machuca Á, Monje Moreno JM, Casado-Navarro R, ... (12/12)... [Miranda-Vizuete A](#) (2019) [Redox-dependent and redox-independent functions of *Caenorhabditis elegans* thioredoxin 1](#). *Redox Biol.* 24:101178. *Impact factor: 10.0. Quartile in Biochemistry and Molecular Biology (JCR): D1/Q1 (20/297)*.
4. Hernández IH, Torres-Peraza J, Santos-Galindo M, Ramos-Morón E, Fernández-Fernández MR, Pérez-Álvarez MJ, [Miranda-Vizuete A](#), Lucas JJ. (2017) [The neuroprotective transcription factor ATF5 is decreased and sequestered into polyglutamine inclusions in Huntington's disease](#). *Acta Neuropathol*, 134: 839-850. *Impact factor: 15.9. Quartile in Neurosciences (JCR): D1/Q1 (3/261)*.
5. [Miranda-Vizuete A](#), Veal EA. (2017) [Caenorhabditis elegans as a model for understanding ROS function in physiology and disease](#). *Redox Biol.* 11:708-714. *Impact factor: 7.1. Quartile in Biochemistry and Molecular Biology (JCR): Q1 (31/292)*.
6. Mora-Lorca JA, Sáenz-Narciso B, Gaffney CJ, ... (11/11)... [Miranda-Vizuete A](#). (2016) [Glutathione reductase *gsr-1* is an essential gene required for *Caenorhabditis elegans* early embryonic development](#). *Free Radic Biol Med.* 96: 446-61. *Impact factor: 5.6. Quartile in Biochemistry and Molecular Biology (JCR): Q1 (42/286)*.
7. Jiménez-Hidalgo M, Kurz CL, Pedrajas JR, ... (13/13)... [Miranda-Vizuete A](#). (2014) [Functional characterization of thioredoxin 3 \(TRX-3\), a *Caenorhabditis elegans* intestine-specific thioredoxin](#). *Free Radic Biol Med.* 68: 205-19. *Impact factor: 5.7. Quartile in Biochemistry and Molecular Biology (JCR): Q1 (40/289)*.
8. Muñoz-Lobato F, Rodríguez-Palero MJ, Naranjo-Galindo FJ, ... (11/11)... [Miranda-Vizuete A](#). (2014) [Protective role of DNJ-27/ERdj5 in *Caenorhabditis elegans* models of human neurodegenerative diseases](#). *Antioxid Redox Signal.* 20: 217-35. *Impact factor: 7.4. Quartile in Endocrinology and Metabolism (JCR): D1/Q1 (10/128)*.
9. Cacho-Valadez B, Muñoz-Lobato F, Pedrajas JR, ... (9/9)... [Miranda-Vizuete A](#). (2012) [The characterization of the *Caenorhabditis elegans* mitochondrial thioredoxin system uncovers an unexpected protective role of thioredoxin reductase 2 in \$\beta\$ -amyloid peptide toxicity](#). *Antioxid Redox Signal.* 16: 1384-400. *Impact factor: 7.2. Quartile in Endocrinology and Metabolism (JCR): D1/Q1 (10/121)*.
10. Stenvall J, Fierro-González JC, Swoboda P, ... (9/10)... [Miranda-Vizuete A](#), Tuck S. (2011) [Selenoprotein TRXR-1 and GSR-1 are essential for removal of old cuticle during molting in *Caenorhabditis elegans*](#). *Proc Natl Acad Sci USA.* 108: 1064-9. *Impact factor: 9.7. Quartile in Multidisciplinary Sciences (JCR): D1/Q1 (3/55)*.

C.2. Congress (5 selected out of 40 communications in the last 10 years)

1. Guerrero-Gómez D, Mora-Lorca JA, Sáenz-Narciso B, ... (9/9)... [Miranda-Vizuete A](#) (November 2017) [Glutathione Reductase protects *Caenorhabditis elegans* against proteotoxic stress](#). *Oral Presentation. Congress: Proteostasis in Aging and Disease, Split, Croatia*.
2. [Miranda-Vizuete A](#) (September 2016) [Caenorhabditis elegans Toolkit for Redox Biology](#). *Invited Conference. Congress: FEBS Advanced Lecture Course on Redox Regulation of Metabolic Processes. Spetses, Greece*.
3. McCallum KC, Liu B, Fierro-González JC, Swoboda P, Arur S, [Miranda-Vizuete A](#), Garsin DA (June 2015) [Trx-1 is a potential regulator of the *C. elegans* oxidative stress transcription factor SKN-1](#). *Poster. Congress: 20th International C. elegans Meeting, Los Angeles, USA*.
4. Naranjo-Galindo FJ, Pedrajas JR, Sáenz-Narciso B, Cabello J, [Miranda-Vizuete A](#) (July 2014) [Protective role of Glutathione Reductase in *Caenorhabditis elegans* models of polyQ diseases](#). *Poster. Congress: Gordon Research Conference on Thiol Based Redox Regulation and Signaling, Girona, Spain*.



5. Miranda-Vizuete A (May 2012) *Caenorhabditis elegans* longevity as paradigm of the redox regulation of ageing in metazoa. Oral Presentation. Congress: *The Biology of Aging*. Carmona, Spain.

C.3. Research projects

1. Title: [Redox regulation of autophagy in proteostasis maintenance: Protective role of reduced glutathione](#). Reference: P20_00229. Funding: Junta de Andalucía. Call: 2020. Name IP: Antonio Miranda Vizuete. Affiliation: CSIC. Period: June 2020 - December 2022. Amount: 90.000 €.

2. Title: [Neurodegeneration and Prion-like propagation of misfolded proteins mediated by CSP/Dnajc5](#). Reference: US-1382657. Funding: Junta de Andalucía. Call: 2020. Name IP: Rafael Fernández Chacón. Affiliation: Universidad de Sevilla. Period: June 2020 - December 2022. Amount: 89.000 €. Participation: Investigator.

3. Title: [Role of glutathione in autophagy regulation and proteostasis maintenance](#). Reference: PGC2018-094276-B-I00. Funding: Ministry of Science, Innovation and Universities. Call: 2018. Name IP: Antonio Miranda Vizuete. Affiliation: CSIC. Period: January 2019 - July 2022. Amount: 169.400 €.

4. Title: [Mecanismos moleculares del glutatión en el mantenimiento de la proteostasis](#). Reference: BFU2015-64408-P. Funding: Ministry of Economy and Competitiveness. Call: 2015. Name IP: Antonio Miranda Vizuete. Affiliation: CSIC. Period: January 2016 - December 2018. Amount: 117.600 €.

5. 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 *C. elegans*](#). Reference: PI11/00072. Funding: Instituto de Salud Carlos III. Call: 2011. Name IP: Antonio Miranda Vizuete. Affiliation: CSIC. Period: January 2012 - December 2014. Amount: 54.119 €.

6. Title: [Caracterización de los efectos del tirosol y el hidroxitirosol en modelos de la enfermedad de Parkinson en el nematodo *Caenorhabditis elegans*](#). Reference: IEG2012_00154. Funding: Instituto de Estudios Giennenses. Call: 2012. Name IP: Ana Cañuelo Navarro. Affiliation: University of Jaén. Period: November 2012 - November 2013. Amount: 8.800 €. Participation: Investigator.

7. Title: [Estudio de la función moduladora del sistema tioredoxina en la señalización de la ruta de la insulina en *Caenorhabditis elegans*](#). Reference: P08-CVI-03629. Funding: Junta de Andalucía. Call: 2008. Name IP: Antonio Miranda Vizuete. Affiliation: Universidad Pablo de Olavide. Period: January 2009 - December 2013. Amount: 243.986 €.

8. Title: [Estudio del efecto de compuestos fenólicos del aceite de oliva sobre mecanismos reguladores de la longevidad](#). Reference: IEG2009_00036. Funding: Instituto de Estudios Giennenses. Call: 2009. Name IP: Ana Cañuelo Navarro. Affiliation: University of Jaén. Period: November 2009 - November 2011. Amount: 9.900 €. Participation: Investigator.

9. Title: [Aproximación a las bases moleculares del envejecimiento desde la mitocondria y la envoltura nuclear](#). Reference: P07-CVI-02697. Funding: Junta de Andalucía. Call: 2007. Name IP: Manuel Muñoz Ruiz. Affiliation: Universidad Pablo de Olavide. Period: January 2008 - December 2012. Amount: 397.168 €. Participation: Investigator.

10. Title: [Función de los sistemas tioredoxina en modelos *in vivo* de Alzheimer, Parkinson y Esclerosis Lateral Amiotrófica en el nematodo *Caenorhabditis elegans*](#). Reference: PI080557. Funding: Instituto de Salud Carlos III. Call: 2008. Name IP: Antonio Miranda Vizuete. Affiliation: Universidad Pablo de Olavide. Period: January 2009 - December 2011. Amount: 257.730 €.

C.4. Contracts, technological or transfer merits

Dr. Miranda-Vizuete has two patents currently active (7,485,430 B2 and 7,741,058 B2) which are licensed to Kerafast company (<https://www.kerafast.com/item/1471/anti-txndc8-sptrx-3-antibody>). However, as they were filed in 2009 and 2010, they are not included in this CV as it pertains to the last 10 years of scientific activity.