



Part A. PERSONAL INFORMATION		CV date		25/05/2020
First and Family name	MARIA TERESA ALONSO ALONSO			
Social Security, Passport, ID number	ID Card: 16261459E	Age	57	
Researcher numbers	Researcher ID	K-5003-2014		
	Author ID	7401661765		
	ORCID code	0000-0002-9176-3788		

A.1. Current position

Name of University/Institution	University of Valladolid – Institute of Biology and Molecular Genetics (IBGM)		
Department	Molecular and Cellular Physiology		
Address and Country	C/ Sanz y Forés 3, 47003 Valladolid (Spain)		
Phone number	+34 983184815	E-mail	talonso@ibgm.uva.es
Current position	Professor of Biochemistry and Molecular Biology	From	18/10/1996
UNESCO codes	2411, 2410.10, 2406, 2403, 2407		
Key words	Calcium, sensor, organelle, aequorin, endoplasmic reticulum, Golgi, Alzheimer's, neurodegeneration		

A.2. Education

Degree/PhD	University	Year
Degree in Science	Universidad del País Vasco	1985
Postgraduate studies in Science	Universidad del País Vasco	1986
PhD in Medicine and Surgery	Universidad de Valladolid	1990

A.3. JCR articles, h Index, and thesis supervised

First quartile publications: 45 (Scopus database). **h-Index: 27**
 Total citations: 2217. Average number of citations/year during the last 5 years: 14,33
 Number of doctoral theses directed in the last 10 years: 4.
 Number of certified 6-year research periods: 5.

Part B. CV SUMMARY (max. 3500 characters, including spaces)

Dr. Alonso is Full Professor of Biochemistry and Molecular Biology at the University of Valladolid, where she teaches in the Department of Physiology and Biochemistry and Molecular Biology, since her appointment in 1996, teaching in several subjects of the Degree in Medicine. She has been accredited as a University Professor since 2012. She has spent several stays in the sabbatical regime at the Center for Molecular Neurobiology (ZMNH) at the University of Hamburg. Her scientific interest has focused on the role of intracellular calcium as a signaling molecule in various cellular responses and models. Our research group has been a pioneer in Spain in measurements of microfluorescence and image analysis in living cells, with resolution at the individual cell level. In the last 20 years our group has developed new tools based on the bioluminescent protein aequorin, which have allowed us to provide new knowledge, especially in the field of calcium in organelles. More recently we have also generated a new family of fluorescent calcium genetic probes.

Our research extends from a molecular level in vitro, using the purified protein to explore mechanistic aspects of the structure-function relationship, up to a complete organism level, with the generation of transgenic animals and their application in studies in the whole animal in physiopathological aspects such as aging or neurodegeneration. The result of these investigations are 70 publications, 3 patents and 5 doctoral theses directed



Part C. RELEVANT MERITS

C.1. Publications (including books) – Selection

Sarcoplasmic reticulum Ca²⁺ decreases with age and correlates with the decline in muscle function in *Drosophila*. (2020) Delrio-Lorenzo A, Rojo-Ruiz J, **Alonso MT**, García-Sancho J. *J Cell Sci*. 133(6):jcs240879.

Direct monitoring of ER Ca²⁺ dynamics reveals that Ca²⁺ entry induces ER-Ca²⁺ release in astrocytes. (2020) Rodríguez-Prados M, Rojo-Ruiz J, García-Sancho J, **Alonso MT**. *Pflugers Arch*. 472: 439-448.

Caffeine chelates calcium in the lumen of the endoplasmic reticulum. Rojo-Ruiz J, Rodríguez-Prados M, Delrio-Lorenzo A, **Alonso MT**, García-Sancho J. (2018) *Biochem J*. 475: 3639-3649

Chamero P, Weiss J, **Alonso MT**, Rodríguez-Prados M, Hisatsune C, Mikoshiba K, Leinders-Zufall T & Zufall F (2017) Type 3 inositol 1,4,5-trisphosphate receptor is dispensable for sensory activation of the mammalian vomeronasal organ *Sci. Rep.* 7:10260

Arduino DM, Wettmarshausen J, Vais H, Navas-Navarro P, Cheng Y, Leimpek A, Ma Z, Delrio-Lorenzo A, Giordano A, Garcia-Perez C, Médard G, Kuster B, García-Sancho JG, Mokranjac D, Foskett JK, **Alonso MT**, Perocchi F (2017) Systematic identification of MCU modulators by orthogonal interspecies chemical screening *Mol Cell* 67:711-723

Alonso MT, Navas-Navarro P and García-Sancho J (2017) A microplate-based bioluminescence assay of mitochondrial calcium uptake. *Methods Mol Biol*. 1567:245-253. doi: 10.1007/978-1-4939-6824-4_15 (A)

Alonso MT, Rojo-Ruiz J, Navas-Navarro P, Rodríguez-Prados M, García-Sancho J. (2017) Using aequorin probes to measure Ca²⁺ in intracellular organelles *Cell Calcium* 64: 3-11 (R)

Navas-Navarro P, Rojo-Ruiz J, Rodríguez-Prados M, Ganfornina MD, Looger LL, **Alonso MT*** and García-Sancho J* (2016) GFP-Aequorin Protein sensor for cell-based, ex vivo and in vivo imaging of Ca²⁺ dynamics in high Ca²⁺ organelles. *Cell Chem. Biol.* 23: 738-45

Stein B, **Alonso MT**, Zufall F, Leinders-Zufall T, and Chamero P (2016) Functional Overexpression of Vomeronasal Receptors Using a Herpes Simplex Virus Type 1 (HSV-1)-Derived Amplicon. *PLOS One* doi: 10.1371/journal.pone.0156092

Rodríguez-Prados M, Rojo-Ruiz J, Aulestia FJ, García-Sancho J, **Alonso MT** (2015) A new low-Ca²⁺ affinity GAP indicator to monitor high Ca²⁺ in organelles by luminescence. *Cell Calcium* 58: 558-64

Rodríguez-García A, Rojo J, Navas-Navarro P, Aulestia F, Gallego-Sandín S, García-Sancho J, **Alonso MT** (2014) GAP, a new aequorin-based fluorescent indicator for imaging Ca²⁺ in organelles *PNAS* 111:2584-9

López-Doménech G, Serrat R, Mirra S, D'Aniello S, Somorjai I, Abad A, Vitureira N, García-Arumí E, **Alonso MT**, Rodríguez-Prados M, Burgaya F, Andreu AL, García-Sancho J, Trullas R, García-Fernández J, Soriano E. (2012) The Eutherian *Armcx* genes regulate mitochondrial trafficking in neurons and interact with Miro and Trak2. *Nat Commun.* 3: 814

Gallego-Sandín S, **Alonso MT**, García-Sancho J. (2011) Calcium homeostasis modulator 1 (CALHM1) reduces the calcium content of the endoplasmic reticulum (ER) and triggers ER stress *Biochem J*. 437:469-75



Alonso MT and García-Sancho J. (2011) Nuclear Ca(2+) signalling. *Cell Calcium* 49:280-9

C.2. Research projects and grants

- Calcio y Función Celular. Ref: BFU 2017-83066-P. Funding Agency: DGI MICINN. Position: P.I. (Co-PI: J. García-Sancho). Start: 01/01/2018 – End: 31/12/2020.
- Red de Terapia Celular. Ref: RD16/0011/0003. Funding Agency: ISCIII – MSPS. Start: 2017 – End: 2021. Position: P.I. (J. García-Sancho).
- Title: Calcio y Función Celular. Ref: BFU2014-53469-P. Funding Agency: DGI MICINN. Position: Co-P.I. (P.I. - J. García-Sancho). Start: 01/01/2015 – End: 31/12/2017.
- Title: Red de Terapia Celular. Ref: RD12/0019/0036, Funding Agency: ISCIII – MSPS. Start: 2013 – End: 2016. Position: P.I. (J. García-Sancho).
- Title: Calcio y Función Celular. Ref: BFU2010-17379/BFI. Funding Agency: DGI Spanish Ministry of Science and Technology. Position: P.I. (J. García-Sancho). Start: 2010 – End: 2013.
- Title: Neuron -Disturbance of calcium processing by intracellular organelles in the ER-mitochondria calcium cycle in a triple mutant model of Alzheimer disease. Ref.: ERA-net NEURON - SAF2008-03175-E. Funding Agency: European Commission/MICINN. Position: P.I. Spanish partner, University of Valladolid (J. García-Sancho). Start: 2009 – End: 2012.
- Title: Calcio y Función Celular. Ref: BFU2007-60157/BFI. Funding Agency: DGI MICINN. Position: P.I. (J. García-Sancho). Start: 12/2008 – End: 12/2010.
- Title: Mecanismos moleculares y terapias para procesos neurodegenerativos causando la pérdida de la audición. Ref. CB06/051129. Start: 01/2008 – End: 12/2010. Funding Agency: ISCIII – CIBERNET. P.I. - Thomas Schimmang.

C.3. Contracts and Technology Transfer Merits

C.4. Patents

- ❖ Inventors (signature order): M. Teresa Alonso Alonso and J. García-Sancho Martín. Title: Calcium sensors and methods for the detection of intracellular free calcium. Application number: P201230475. Country of priority: Spain. Priority date: 29.03.2012 Entity holder: University of Valladolid
- ❖ Inventors (signature order): M. Teresa Alonso Alonso and J. García-Sancho Martín. Title: Apoacuerin mutants and methods for their use. Application number: P201231104 Country of priority: Spain Priority date: 13.07.2013 Entity holder: University of Valladolid.

C5. Services to the Scientific Community / Management of Scientific Activity

Revisor (peer-reviewer) of scientific journals: J. Neuroscience, Plos One, Neuroscience

C6. Membership of International Committees and Societies

Sociedad Española de Bioquímica y Biología Molecular (SEBB)

European Calcium Society (ECS)

