Date of the CVA	16/04/2021

Section A. PERSONAL DATA

Name and Surname	Álvaro Macías Martínez		
DNI	53430931E	Age	35
Researcher's identification number	Researcher ID	N-7267-2015	
	Scopus Author ID	9239860300	
	ORCID	0000-0002-9952-6947	

* Obligatorio

A.1. Current professional situation

Institution			
Dpt. / Centre			
Address	C/ Melchor Fernández Almagro, 3, 28029, Madrid		
Phone	(0034) 683251676	Email	alvaro.macias@cnic.es
Professional category		Start date	
Keywords			

A.2. Academic education (Degrees, institutions, dates)

Bachelor/Master/PhD	University	Year
Master Degree in Teacher Training at ESO and Baccalaureate	Universidad Francisco de Vitoria	2017
Official Program of Biochemistry, Molecular Biology and Biotechnology	Universidad Autónoma de Madrid	2014
Degree thesis dissertation (Tesina de Licenciatura)	School of Biology, Univ. Complutense Madrid	2011
Master in Molecular and Cellular Biology	Universidad Autónoma de Madrid	2010
Graduate in Biology	School of Biology, Univ. Complutense Madrid	2009

A.3. General quality indicators of scientific production

In my career I have accumulated 23 publications. In the Web of Science there are 23 publications indexed: **22%** (5) without my PhD supervisors; **78%** (18) of them are published in journals in 1st quartile (**Q1**); **70%** (16) are original articles/reviews; **26%** (6) in journals in 1st decile (**D1**) and **9%** (2) in journals in the **TOP3** of their category.

Total citations:178 according to WOS (7.74 citations/document) and 277 according to Google Scholar (12.04 citations/document).

Open access. In the last 5 years a 70% (16) of his publications are OA (Gold, Green, Bronze, others).

Field normalized citation rate in the last 10 years (2010-2020): 0.6464 (1 is field average); and in 2019 resulted as 2.8571. According to WOS and Essential Science Indicators, 1 publication of the last 10 years (2010-2020) is among the top 10% of the most cited for their category

H-index: 9; i-10 index: 10 (Web of Science) // 10; i-10 index:11 (Google Scholar) Unless in those specified cases, all data was obtained from the Web of Science, JCR and ESI in March 2021.

Section B. SUMMARY OF THE CURRICULUM

Section C. MOST RELEVANT MERITS (ordered by typology)

C.1. Publications

AC: Autor de correspondencia; (nº x / nº y): posición firma solicitante / total autores

1 **Scientific paper**. Macias, A; Díaz-Larrosa, JJ; Blanco, Y; et al; Andrés, V. 2021. Paclitaxel mitigates structural alterations and cardiac conduction system defects in Hutchinson-Gilford progeria syndrome Cardiovascular Research (accepted - 10.1093/cvr/cvab055. Online ahead of print.).

2 **Scientific paper**. Galan-Arriola, C; Vílchez-Tschischke, JP; Lobo-Gonzalez, M; et al; Ibanez, B. 2021. Coronary microcirculation damage in anthracycline cardiotoxicity Cardiovascular Research (accepted - 10.1093/cvr/cvab053. Online ahead of print.). Oxphord.

3 **Scientific paper**. Macias, A; de la Cruz, A; Peraza, DA; de Benito, A; González, T; Valenzuela, C. 2021. KV1.5-KVβ1.3 recycling is PKC-dependent International Journal of Molecular Sciences. Multidisciplinary Digital Publishing Institute (MDPI). 22-1336.

4 **Scientific paper**. Jimenez-Vazquez, EN; Arad, M; Cuttitta, AJ; et al; Jalife, J. 2021. Arrhythmogenic Mechanisms in iPSC-CMs from Patients with Cardiomyopathy of Duchenne Muscular Dystrophy Circulation: Arrhythmia and Electrophysiology (Under Review - CIRCAE/2020/009415).

5 **Scientific paper**. Sánchez-Lopez, A; Espinós-Estévez, C; González-Gómez, C; et al; Andres, V. 2021. Cardiovascular progerin suppression and lamin A restoration rescues Hutchinson-Gilford progeria syndrome Nature Medicine (Submitted; NMED-A112578).

6 **Scientific paper**. Macías, A; González-Guerra, A; Moreno-Manuel, AI; et al; Jalife, J. 2021. Kir2.1 Channels in the Sarcoplasmic Reticulum Membrane Control Intracellular Calcium Dynamics Circulation Research (Under Review - CIRCRES/2021/318877). American Association for the Advancement of Science (AAAS).

7 **Scientific paper**. Fanjul, V; Jorge, I; Camafeita, E; et al; Andrés, V. 2020. Identification of common cardiometabolic alterations and deregulated pathways in mouse and pig models of aging Aging Cell. 19-9, pp.e13203.

8 **Scientific paper**. Dorado, Beatriz; Grunnet Ploen, Gro; Barettino, Ana; et al; Andres, Vicente. 2019. Generation and characterization of a novel knockin minipig model of Hutchinson-Gilford progeria syndrome CELL DISCOVERY. NATURE PUBLISHING GROUP. 5, pp.16. ISSN 2056-5968.

9 **Scientific paper**. Manuel Molina-Guijarro, Jose; Garcia, Carolina; Macias, Alvaro; et al; Galmarini, Carlos M.2015. Elisidepsin Interacts Directly with Glycosylceramides in the Plasma Membrane of Tumor Cells to Induce Necrotic Cell Death PLOS ONE. PUBLIC LIBRARY SCIENCE. 10-10. ISSN 1932-6203.

10 **Scientific paper**. Macias, A.; de la Cruz, A.; Prieto, A.; Peraza, D. A.; Tamkun, M. M.; Gonzalez, T.; Valenzuela, C.2014. PKC inhibition results in a K(v)1.5+K-v beta 1.3 pharmacology closer to K(v)1.5 channels BRITISH JOURNAL OF PHARMACOLOGY. WILEY-BLACKWELL. 171-21, pp.4914-4926. ISSN 0007-1188, ISSN 1476-5381.

11 **Scientific paper**. Moreno, Cristina; Prieto, Patricia; Macias, Alvaro; Pimentel-Santillana, Maria; de la Cruz, Alicia; Traves, Paqui G.; Bosca, Lisardo; Valenzuela, Carmen. 2013. Modulation of Voltage-Dependent and Inward Rectifier Potassium Channels by 15-Epi-Lipoxin-A4 in Activated Murine Macrophages: Implications in Innate Immunity JOURNAL OF IMMUNOLOGY. AMER ASSOC IMMUNOLOGISTS. 191-12, pp.6136-6146. ISSN 1550-6606.

12 **Scientific paper**. David, Miren; Macias, Alvaro; Moreno, Cristina; et al; Valenzuela, Carmen. 2012. Protein Kinase C (PKC) Activity Regulates Functional Effects of K-v beta 1.3 Subunit on K(V)1.5 Channels IDENTIFICATION OF A CARDIAC K(v)1.5 CHANNELOSOME JOURNAL OF BIOLOGICAL CHEMISTRY. AMER SOC BIOCHEMISTRY MOLECULAR BIOLOGY INC. 287-25, pp.21416-21428. ISSN 1083-351X.

13 **Scientific paper**. Moral-Sanz, Javier; Gonzalez, Teresa; Menendez, Carmen; et al; Cogolludo, Angel. 2011. Ceramide inhibits K-v currents and contributes to TP-receptor-induced vasoconstriction in rat and human pulmonary arteries AMERICAN JOURNAL OF PHYSIOLOGY-CELL PHYSIOLOGY. AMER PHYSIOLOGICAL SOC. 301-1, pp.C186-C194. ISSN 0363-6143, ISSN 1522-1563.

14 **Scientific paper**. Molina-Guijarro, Jose M.; Macias, Alvaro; Garcia, Carolina; et al; Galmarini, Carlos M.2011. Irvalec Inserts into the Plasma Membrane Causing Rapid Loss of Integrity and Necrotic Cell Death in Tumor Cells PLOS ONE. PUBLIC LIBRARY SCIENCE. 6-4. ISSN 1932-6203.

15 **Scientific paper**. Molina-Guijarro JM; Macías A; García C; et al; Galmarini CM.2011. Irvalec inserts in the plasma membrane causing rapid loss of integrity and necrotic cell death in tumor cells.PLoS ONE. 6 (Aceptada), pp.e19042.

16 **Scientific paper**. Macias, Alvaro; Moreno, Cristina; Moral-Sanz, Javier; et al; Gonzalez, Teresa. 2010. Celecoxib blocks cardiac Kv1 5, Kv4 3 and Kv7 1 (KCNQ1) channels Effects on cardiac action potentials JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY. ACADEMIC PRESS LTD- ELSEVIER SCIENCE LTD. 49-6, pp.984-992. ISSN 0022-2828, ISSN 1095-8584.

17 **Book chapter**. Y. Vivas; C. Azpeleta; A. Feliciano; E. Velarde; A. Macías; E. Isorna; M.J. Delgado; N. de Pedro.2011. Dependencia circadiana de las acciones anoréticas de la leptina en el carpín (Carassius auratus).Avanços em Endocrinologia Comparativa. Centro Interdisciplinar de Investigação Marinha e Ambiental, Universidade do Porto.J.M. Wilson, A. Damasceno-Oliveira, J. Coimbra. 5, pp.168-171. ISBN 978-989-97443-0-1.

18 **Book chapter**. A. Macías; E. Velarde; C. Azpeleta; M.J. Delgado; A.L. Alonso-Gómez; A.I. Valenciano.2011. Optimización de un método de alta sensibilidad para la cuantificación de melatonina mediante derivatización precolumna y detección por FL-HPLC.Avanços em Endocrinologia Comparativa. Centro Interdisciplinar de Investigação Marinha e Ambiental, Universidade do Porto.J.M. Wilson, A. Damasceno-Oliveira, J. Coimbra. 5, pp.83-86. ISBN 978-989-97443-0-1.

19 Valenzuela, Carmen; Moreno, Cristina; De La Cruz, Alicia; Macias, Alvaro; Prieto, Angela; Gonzalez, Teresa. 2012. Stereoselective Interactions between Local Anesthetics and Ion Channels CHIRALITY. 24-11, pp.944-950. ISSN 0899-0042, ISSN 1520-636X.

20 Moreno, Cristina; Macias, Alvaro; Prieto, Angela; de la Cruz, Alicia; Gonzalez, Teresa; Valenzuela, Carmen. 2012. Effects of n-3 polyunsaturated fatty acids on cardiac ion channels FRONTIERS IN PHYSIOLOGY. 3. ISSN 1664-042X.

21 Moreno, Cristina; Macias, Alvaro; Prieto, Angela; De La Cruz, Alicia; Valenzuela, Carmen. 2012. Polyunsaturated fatty acids modify the gating of Kv channels FRONTIERS IN PHARMACOLOGY. 3. ISSN 1663-9812.

22 Gonzalez, Teresa; David, Miren; Moreno, Cristina; Macias, Alvaro; Valenzuela, Carmen. 2010. Kv1.5-Kv beta Interactions: Molecular Determinants and Pharmacological Consequences MINI-REVIEWS IN MEDICINAL CHEMISTRY. 10-7, pp.635-642. ISSN 1389-5575, ISSN 1875-5607.

C.2. Participation in R&D and Innovation projects

1 Machine learning artificial intelligence early detection stroke atrial fibrillation. MAESTRÍA EC-European Commission H2020: Digital diagnostics – developing tools for supporting clinical decisions by integrating various diagnostic data (SC1-BHC-06-2020). Stephan Hatem. (Several International Entities). 01/03/2021-28/02/2026. 801.000 €.

2 Genotype Specific Arrhythmogenic Mechanisms in Andersen-Tawil Syndrome FUNDACION LA MARATO TV3: Ayudas a la investigación en enfermedades raras 2020 (LAMARATO-2020). (Instituto de Investigación Sanitaria La Fe / CNIC / Fundación pública para la investigación biosanitaria de Andalucía Oriental (FIBAO)). 01/04/2021-01/04/2024. 200.000 €.

3 Mecanismos Arritmogénicos en el Síndrome del QT Corto (SQTS) Instituto de Salud Carlos III. José Jalife. (FUNDACION CENTRO NACIONAL DE INVESTIGACIONES CARDIOVASCULARES CARLOS III). 01/01/2021-31/12/2023.

4 Dysfunction of Ion Channel Complexes in Inheritable Cardiac Diseases Proyectos de Investigación en Salud - 2018 - Fundación Bancaria “La Caixa” (PI-LaCaixa-2018). José Jalife. (FUNDACION CENTRO NACIONAL DE INVESTIGACIONES CARDIOVASCULARES CARLOS III). 01/11/2019-31/10/2022.

5 Exploring new pathways in age-related cardiac diseases (Complementary actions of international joint programming 2016. Ref .: AC16 / 00092) Vicente Andrés García. (FUNDACION CENTRO NACIONAL DE INVESTIGACIONES CARDIOVASCULARES CARLOS III). 01/01/2017-31/12/2019. 99.825 €.

6 Role of advanced glycation end-products (AGEs) in ischemia-reperfusion injury of the aged and diabetic heart: New insights from mouse and human studies (122/C/2015). Fundació la Marató de TV3.. Vicente Andrés García. (FUNDACION CENTRO NACIONAL DE INVESTIGACIONES CARDIOVASCULARES CARLOS III). 01/01/2016-31/12/2019. 149.999,75 €.

7 Role of nuclear A-type lamins in cardiovascular disease and aging (SAF2016-79490-R) Spanish Ministry of Economy and Competitiveness. Vicente Andrés García. (FUNDACION CENTRO NACIONAL DE INVESTIGACIONES CARDIOVASCULARES CARLOS III). 30/12/2016-29/12/2019. 471.900 €.

8 Cell Biology of the Neuronal Sodium Channel National Institute of Neurological Disorders and Stroke. William A. Catterall. (University of Washington). 1988-2018.

9 Regulation of Cardiac Calcium Channels by an Autoinhibitory Signaling Complex National Heart, Lung, and Blood Institute. William A. Catterall. (University of Washington). 2006-2017.

10 Council of Cardiovascular Research (RIC) Vicente Andrés García. (FUNDACION CENTRO NACIONAL DE INVESTIGACIONES CARDIOVASCULARES CARLOS III). 2015-2016.

11 Council of Cardiovascular Research (RIC) Instituto de Salud Carlos III. Carmen Valenzuela Miranda. (Instituto de Investigaciones Biomédicas Alberto Sols). 2012-2014.

12 Adrenergic modulation of Kv1.5-Kv?1.3 channels expresed in different cardiovascular cell types. Comisión Interministerial de Ciencia y Tecnología. Carmen Valenzuela Miranda. (Instituto de Investigaciones Biomédicas Alberto Sols). 2007-2010.

13 Red Temática de Enfermedades Cardiovasculares RECAVA. FIS (RD06/0014/0006). Lisardo Boscá Gomar.2007-2010.

14 Adrenergic modulation of Kv1.5-Kv?1.3 channels in different cardiovascular cell types CICYT (SAF2010- 14916). Carmen Valenzuela Miranda.(Instituto de Investigaciones Biomédicas Alberto Sols). From 01/2011.

15 Spanish Ion Channels Initiative CONSOLIDER 2008-00005. Carmen Valenzuela Miranda (Grupo asociado). Coordinador: Antonio Ferrer Montiel.From 09/2008.

16 32nd Annual Meeting of the European Working Group of Cardiac and Cellular Electrophysiology. CICYT (SAF2008-02080-E). Carmen Valenzuela Miranda.From 2008.

17 Organization of 32nd Annual Meeting of the European Working Group of Cardiac and Cellular Electrophysiology. CAM-CSIC. Carmen Valenzuela Miranda.From 2008.

C.3. Participation in R&D and Innovation contracts

1 Electrophysiological effects of Aplidin in HeLa cells. Pharma Mar, S.A.. Carmen Valenuela Miranda. 01/01/2011-01/01/2012.

2 PM02734: In vitro effect on chloride channels (CIC-2) expressed in HEK293 cells. Pharma Mar, S.A.. Carmen Valenuela Miranda. 01/06/2009-01/06/2010.

C.4. Patents