CV Date	22/03/2024

Part A. PERSONAL INFORMATION

First Name	Omar		
Family Name	Motiño Garcia-Miguel		
Sex	Not Specified	Date of Birth	
ID number Social Security, Passport			
URL Web			
Email Address			
Open Researcher and Contributor ID (ORCID)	0000-0002-3858-0966		

A.1. Current position

Job Title	Beatriz Galindo Junior Distinguished Research		
Starting date	2023		
Institution	Universidad de Valladolid		
Department / Centre	Bioquímica y Biología Molecular y Fisiología / Facultad de Medicina		
Country	Spain	Phone Number	
Keywords	Molecular mechanism of disease; Laboratoy animals; Cell culture; Tissue culture; Histology; Cell biology; Molecular biology		

A.2. Previous positions (Research Career breaks included)

Period	Job Title / Name of Employer / Country
2021 - 2023	Postdoctoral Researcher / Institut National de la Santé et de la Recherche Médicale (INSERM) / France
2020 - 2021	Postdoctoral Research / Université de Paris Cité / France
2019 - 2020	Postdoctoral Research / Institut National de la Santé et de la Recherche Médicale (INSERM) / France
2016 - 2016	Postdoctoral Research / Consejo Superior de Investigaciones Científicas / Spain
2013 - 2015	Predoctoral Research / Consejo Superior de Investigaciones Científicas / Spain
2011 - 2013	Predoctoral Research / Ministerio de Economía y Competitividad / Spain
2011 - 2011	Research assistant / Universidad de Alcalá / Spain

A.3. Education

Degree/Master/PhD	University / Country	Year
Programa Oficial de Doctorado en Bioquímica, Biología Molecular, Biomedicina y Biotecnología (Biociencias Moleculares)	Universidad Autónoma de Madrid / Spain	2016

Part B. CV SUMMARY

Since Novembre 2023, I am currently working as **Beatriz Galindo Junior Distinguished Research** in Cell Stress and Immunosurveillance team directed by Dr. Laura Senovilla at the Instituto de Biomedicina y Genética Molecular (IBGM-CSIC)-Universidad de Valladolid (UVa) in the field of the **hepatology**. I have obtained my PhD in Molecular Biosciences (2016) from the Universidad Autónoma de Madrid. Furthermore, I obtained the master's degree in Therapeutic Targets in Cell Signaling (2011) and degree in Biology (2010) from the Universidad de Alcalá de Henares. In addition, I have published 31 research articles in international journals in the field of biochemistry, molecular biology and hepatology (H-Index 13). Moreover, I have co-supervised 2 undergraduate thesis, I have participate co-supervising 2 PhD students, I am directing one

Master Student, and I am co-inventor of a patent covering the therapeutic use of anti-ACBP/DBI antibodies. Besides, I have participated in 4 competitive R+D+i national projects. I have also evaluated 2 theses as an International Expert. In addition, I have requested as a reviewer of articles in journals such as BBA-Basis Molecular Basis of Disease and Frontiers in Medicine.

I started to work as **Undergraduate student** at the Physiology Department of the Universidad de Alcalá de Henares in 2009, studying the **role of bisphenol A in diabetic nephropathy**, under the supervision of **Dr. Ricardo Bosch**. Later, I joined to the laboratory of **Dr. Vicente González García as an internship student** at the Instituto Madrileño de Investigacion y Desarrollo Rural y Agricultura (IMIDRA), focusing on **the study of pathogenic fungi of vine plants** (2010). At the end of my degree in Biology, I joined to the Biochemistry and Molecular Biology Department of the Faculty of Medicine (Universidad de Alcalá de Henares), to study the **role of AKT isoforms in the progression of prostate cancer and their relationship to androgenic independence** with a project-associated grant, under the direction of **Dr. Begoña Colás and Dr. Pilar López Ruiz** (2011). Subsequently, the Ministry of Economy and Competitiveness (MINECO) awarded me the **Formación al Personal Investigador (FPI)** grant to carry out my **doctoral studies** at the Instituto de Investigacion Biomédicas Alberto Sols-CSIC-UAM, under the direction of **Dr. Paloma Martín-Sanz** (2011). During the PhD, I was focused on the **study of the Cyclooxygenase-2 (COX-2) in chronic liver physiopathology**. In the first year, I studied the post-transcriptional regulation of COX-2 by microRNAs in **hepatocellular carcinoma (HCC)**, demonstrating that miR-16 is a potential therapeutic target in HCC with high COX-2 expression. In later years, I addressed the study of the involvement of COX-2 in **non-alcoholic fatty liver disease (NAFLD) and insulin resistance** (IR)as well as the molecular mechanisms involved in the transition from steatosis (NAS) to steatohepatitis (NASH), demonstrating that the expression of COX-2 in hepatocytes protects against NAS, NASH, IR, obesity, and fibrosis. During my PhD, I did a **short stay with Dr. Myriam Gorospe**, funded by the MINECO at the Intramural Research Program-NIA-NIH (USA) (2014), determining the expression patterns of **microRNAs in the context of caloric restriction and obesity**. In addition, in this stay I collaborated in another project, which was focused on the study of the regulation of the factor TRF2 by HNRNPH1/H2 in neuronal differentiation. Since 2016, my work as **postdoctoral research** was focused on elucidating the role of **COX-2 in ischemia/reperfusion damage** in the liver, and specifically analyzing its impact on mitochondrial function. During this period, I also participated in 2 international studies, one of them about the use of drugs inducing hepatic NRF2 activation and regulating the inflammatory response, and the second one about the role of TNFa in NAFLD progression. Later, under the direction of **Prof. Guido Kroemer** at Centre Recherche des Cordeliers (France), I worked as **postdoctoral research** to find **new therapeutic strategies on the pharmacological induction of autophagy**, which usually involves small molecules targeting intracellular signaling cascades in several tissues. In this sense, I demonstrated that monoclonal antibody-mediated neutralization of an extracellular inhibitor of autophagy, ACBP/DBI, stimulates cytoprotective autophagy, hence inhibiting cell loss, inflammation and fibrosis in various disease models affecting liver, lung and myocardium. Therefore, during these years my interest and background in the metabolic disoders, in particular hepatic physiopathology, has been constantly increased. Currently, I obtained one spanish grant, **Beatriz Galindo Junior**, **to create my own research line to find new therapeutic strategies for human liver diseases.** Finally, I will join to the embryo of a bigger purpose as it is the creating of a **Preclinical Research Unit** directed by **Dr. Laura Senovilla** in the UVa.

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Most important publications in national or international peer-reviewed journals, books and conferences

AC: corresponding author. (nº x / nº y): position / total authors. If applicable, indicate the number of citations

1 **Scientific paper**. Barriuso, Daniel; Alvarez-Frutos, Lucia; Gonzalez-Gutierrez, Lucia; (4/7) Motiño, Omar; Kroemer, Guido; Palacios-Ramirez, Roberto; Senovilla, Laura. 2023. Involvement of Bcl-2 Family Proteins in Tetraploidization-Related Senescence. International Journal of Molecular Sciences. 24-7. WOS (1)

2 **Scientific paper**. Li, Sijing; (2/6) Motino, Omar; Lambertucci, Flavia; Martins, Isabelle; Sun, Li; Kroemer, Guido. 2023. Protein regulator of cytokinesis 1: a potential oncogenic driver. MOLECULAR CANCER. 22-1. WOS (0) https://doi.org/10.1186/s12943-023-01802-1

3 **Scientific paper**. (1/22) Motiño, Omar; Lambertucci, Flavia; Anagnostopoulos, Gerasimos; et al; Kroemer, Guido. 2022. ACBP/DBI protein neutralization confers autophagy-dependent organ protection through inhibition of cell loss, inflammation, and fibrosis. Proceedings of the National Academy of Sciences. 119-41, pp.e2207344119-e2207344119. WOS (10) https://doi.org/10.1073/pnas.2207344119

4 **Scientific paper**. Anagnostopoulos, Gerasimos; (2/23) Motino, Omar; Li, Sijing; et al; Kroemer, Guido. 2022. An obesogenic feedforward loop involving PPAR gamma, acyl-CoA binding protein and GABA receptor (vol 13, 356, 2022). CELL DEATH & DISEASE. SPRINGERNATURE. 13-5. ISSN 2041-4889. WOS (7) https://doi.org/10.1038/s41419-022-04834-5

5 **Scientific paper**. Montégut, Léa; Joseph, Adrien; Chen, Hui; et al; Kroemer, Guido; (6/17) Motiño, Omar. 2022. High plasma concentrations of acyl-coenzyme A binding protein (ACBP) predispose to cardiovascular disease: Evidence for a phylogenetically conserved proaging function of ACBP. Aging Cell. 22-1, pp.e13751-e13751. WOS (7) https://doi.org/10.1111/acel.13751

6 **Scientific paper**. Joseph, Adrien; Chen, Hui; Anagnostopoulos, Gerasimos; et al; Kroemer, Guido; (6/23) Motino, Omar. 2021. Effects of acyl-coenzyme A binding protein (ACBP)/diazepam-binding inhibitor (DBI) on body mass index. CELL DEATH & DISEASE. SPRINGERNATURE. 12-6. ISSN 2041-4889. WOS (11) https://doi.org/10.1038/s41419-021-03864-9

7 **Scientific paper**. Deng, Jiayin; Gutierrez, Lucia G.; Stoll, Gautier; et al; Senovilla, Laura; (4/17) Motino, Omar. 2021. Paradoxical implication of BAX/BAK in the persistence of tetraploid cells. CELL DEATH & DISEASE. SPRINGERNATURE. 12-11. ISSN 2041-4889. WOS (5) https://doi.org/10.1038/s41419-021-04321-3

8 **Scientific paper**. (1/13) Motino, Omar; Frances, Daniel E.; Casanova, Natalia; et al; Martin-Sanz, Paloma. 2019. Protective Role of Hepatocyte Cyclooxygenase-2 Expression Against Liver Ischemia-Reperfusion Injury in Mice. HEPATOLOGY. WILEY. 70-2, pp.650-665. ISSN 0270-9139. WOS (47) https://doi.org/10.1002/hep.30241

9 **Scientific paper**. Lambertucci, Flavia; Arboatti, Ainelen; Guillermina Sedlmeier, Maria; et al; Teresa Ronco, Maria; (4/15) Motino, Omar. 2018. Disruption of tumor necrosis factor alpha receptor 1 signaling accelerates NAFLD progression in mice upon a high-fat diet. JOURNAL OF NUTRITIONAL BIOCHEMISTRY. ELSEVIER SCIENCE INC. 58, pp.17-27. ISSN 0955-2863. SCOPUS (20) https://doi.org/10.1016/j.jnutbio.2018.04.013

10 **Scientific paper**. Brea, R.; (2/10) Motiño, O.; Francés, D.; et al; Agra, N.2017. PGE2 induces apoptosis of hepatic stellate cells and attenuates liver fibrosis in mice by downregulating miR-23a-5p and miR-28a-5p. Biochimica et Biophysica Acta - Molecular Basis of Disease. 1864-2, pp.325-337. SCOPUS (37) https://doi.org/10.1016/j.bbadis.2017.11.001

11 **Scientific paper**. Grammatikakis, Ioannis; Zhang, Peisu; Panda, Amaresh C.; et al; Gorospe, Myriam; (9/12) Motino, Omar. 2016. Alternative Splicing of Neuronal Differentiation Factor TRF2 Regulated by HNRNPH1/H2. CELL REPORTS. CELL PRESS. 15-5, pp.926-934. ISSN 2211-1247. WOS (34) https://doi.org/10.1016/j.celrep.2016.03.080

12 **Scientific paper**. Lambertucci, Flavia; (2/11) Motino, Omar; Villar, Silvina; et al; Teresa Ronco, Maria. 2016. Benznidazole, the trypanocidal drug used for Chagas disease, induces hepatic NRF2 activation and attenuates the inflammatory response in a murine model of sepsis. TOXICOLOGY AND APPLIED PHARMACOLOGY. ACADEMIC PRESS INC ELSEVIER SCIENCE. 315, pp.12-22. ISSN 0041-008X. WOS (14) https://doi.org/10.1016/j.taap.2016.11.015

13 **Scientific paper**. (1/14) Motino, Omar; Agra, Noelia; Brea Contreras, Rocio; et al; Martin-Sanz, Paloma. 2016. Cyclooxygenase-2 expression in hepatocytes attenuates non-alcoholic steatohepatitis and liver fibrosis in mice. BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR BASIS OF DISEASE. ELSEVIER. 1862-9, pp.1710-1723. ISSN 0925-4439. WOS (37) https://doi.org/10.1016/j.bbadis.2016.06.009

14 **Scientific paper**. Frances, Daniel E.; (2/14) Motino, Omar; Agra, Noelia; et al; Martin-Sanz, Paloma. 2015. Hepatic Cyclooxygenase-2 Expression Protects Against Diet-Induced Steatosis, Obesity, and Insulin Resistance. DIABETES. AMER DIABETES ASSOC. 64-5, pp.1522-1531. ISSN 0012-1797. SCOPUS (38) https://doi.org/10.2337/db14-0979

15 **Scientific paper**. (1/11) Motino, Omar; Frances, Daniel E.; Mayoral, Rafael; et al; Martin-Sanz, Paloma. 2015. Regulation of MicroRNA 183 by Cyclooxygenase 2 in Liver Is DEAD-Box Helicase p68 (DDX5) Dependent: Role in Insulin Signaling. MOLECULAR AND CELLULAR BIOLOGY. AMER SOC MICROBIOLOGY. 35-14, pp.2554-2567. ISSN 0270-7306. SCOPUS (37) https://doi.org/10.1128/MCB.00198-15

16 **Scientific paper**. Agra Andrieu, Noelia; (2/8) Motino, Omar; Mayoral, Rafael; Llorente Izquierdo, Cristina; Fernandez-Alvarez, Ana; Bosca, Lisardo; Casado, Marta; Martin-Sanz, Paloma. 2012. Cyclooxygenase-2 Is a Target of MicroRNA-16 in Human Hepatoma Cells. PLOS ONE. PUBLIC LIBRARY SCIENCE. 7-11. ISSN 1932-6203. SCOPUS (34) https://doi.org/10.1371/journal.pone.0050935

C.3. Research projects and contracts

1 **Project**. SAF2016-75004-R, Papel de la ciclooxigenasa-2 en el daño por isquemia/reperfusión en el hígado. Estudio de la función mitocondrial. Plan Estatal de Investigación Científica y Técnica y de Innovación. Paloma Martín Sanz. (Instituto de Investigaciones Biomédicas Alberto Sols). 2017-2019. 220.000 €. Team member.

2 **Project**. SAF2013-43713-R, Papel de las prostaglandinas producidas por la ciclooxigenasa-2 en el inicio y progresión de la enfermedad hepática grasa no alcohólica. Plan Estatal de Investigación Científica y Técnica y de Innovación. (Instituto de Investigaciones Biomédicas Alberto Sols). 2014-2016. 180.000 €. Team member.

3 **Project**. SAF2010-16037, Contribución de las prostaglandinas producidas por la ciclooxigenasa-2 al desarrollo del carcinoma hepatocelular. Regulación de la expresión del gen de COX-2 en CHC. programa: Plan Estatal de Investigación Científica y Técnica y de Innovación. (Instituto de Investigaciones Biomédicas Alberto Sols). 2011-2013. 140.000 €. Team member.

4 **Project**. CCG10-UAH/SAL-5992, Papel de las isoformas de Akt en la progresión del cáncer de próstata y su relación con la independencia androgénica. (Universidad de Alcalá). 2009-2011. 16.000 €. Team member.

C.4. Activities of technology / knowledge transfer and results exploitation

Motiño García-Miguel; Kroemer. WO2023/152637. NEUTRALIZATION OF ACYL-COA BINDING PROTEIN CONFERS AUTOPHAGY-DEPENDENT ORGAN PROTECTION France. 17/08/2023. Institut National de la Santé et de la Recherche Médicale.