CURRICULUM VITAE (CVA)

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

CV date	15/09/2023

Part A. PERSONAL INFORMATION

First name	José Manuel		
Family name	Rodríguez Vargas		
e-mail	jmrodriguez@ugr.es	https://biologiacelular.ugr.es/	
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-0836-8494	

A.1. Current position

Position	Postdoctoral Researcher "Programa P9 Universidad de Granada"		
Institution	University of Granada		
Department/Center	Dpt. Cell Biology – Faculty of Sciences		
Country	Spain	Teleph. Number	958 240839
Key words	Tumor micro-environment, hypoxia, tumor angiogenesis, metastasis, HIF-1α, PARylation, Mitochondria Diseases		

A.2. Previous positions (research activity interruptions, art. 13.2.b))

Period	Position/Institution/Country/Interruption cause
2020-2023	Postdoctoral Researcher / Juan de la Cierva Incorporación / CSIC
2017-2020	Postdoctoral Researcher / Université de Strasbourg USIAS Program / France
2015-2017	Postdoctoral Researcher Ramón Areces Foundation /Université de Strasbourg / France
2014-2014	Postdoctoral Researcher / EMBO / Université de Strasbourg / France / IPBLN-CSIC / Spain
2012-2013	Postdoctoral Contract / Junta de Andalucía / Spain
2008-2012	PhD Student JAE I3P Program / IPBLN-CSIC / Spain
2007-2007	PhD Student / Ministerio de Ciencia e Innovación / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Doctor in Biochemistry	University of Granada / Spain	2013
Master's Degree in Research and Advances in Molecular and Cellular Immunology	University of Granada / Spain	2008
Degree in Biochemistry	University of Granada / Spain	2005
Pedagogical Adaptation Course (CAP)	University of Granada / Spain	2004
Degree in Biology	University of Jaén / Spain	2003

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

My research activity began with the completion of my Doctoral Thesis at the Institute of Parasitology and Biomedicine López-Neyra IPBLN-CSIC - University of Granada. At this institution, in January 2008, I was awarded a pre-doctoral JAE i3p fellowship by The Spanish National Research Council (CSIC), I joined Dr. Francisco Javier Oliver Pozo's laboratory. As a PhD student I studied in depth the implications of PARP-1 (main genome guardian) and Poly ADP-ribosylation reaction (PARylation) in starvation-induced autophagy in cancer. After completing my PhD (Cum Laude from the University of Granada) in 2014, I obtained an EMBO Short-term Fellowship to carry out a 3-month postdoctoral stay in the laboratory of Dr. Francoise Dantzer at the École Supérieure of Biotechnologie of Strasbourg (UMR7242, ESBS-UNISTRA, France), where I described the molecular mechanism by which PARP-1

is able to modulate the activation of the AMPk / ULK1 pathway (cellular energy sensor and precursor of the autophagy survival and adaptation pathway) and the inactivation of the mTORC1 complex (cellular nutritional sensor and the main negative modulator of autophagy). As a result of this stay and in addition to my predoctoral work, 3 articles were published (first author) in high impact journals: Autophagy (Q1, 2009), Cell Research (D1, 2012) and Cell Death and Differentiation (D1, 2016). In 2015, I received a postdoctoral fellowship from the Ramón Areces Foundation (Call 2015-2017) to begin my long-term postdoctoral work in Dr. Dantzer's laboratory and to be an active part of the Poly (ADP-ribosyl) ation and Genome Integrity team, included in the UMR7242 Biotechnology and Cellular Signaling department (ESBS-UNISTRA). During these two years, my work focused on the role of PARP-3 in tumor progression and the EMT differentiation processes, which reflected in a publication in Oncotarget (Q2, 2016). From October 2017 to January 2020, I have benefited from a postdoctoral contract from the University of Strasbourg (USIAS PROGRAM). Our studies have shown that PARP-3 can be used in a synthetic lethality model in triple negative breast cancer cell lines which are mutant for BRCA1 (BRCA1mut TNBCs), this work was published in Cell Death and Differentiation (First Author) (D1, 2018). At the same time, we developed a new line of study focuses on the role of PARP-3 in neurogenesis under basal conditions and stress by hypoxia ischemia in the brain (collaboration with Professor Magnar Björas (NTNU - Norway)). All our data demonstrated the active role of PARP-3 in the differentiation of astrocytes and neurons during stress situations and how this process is seriously compromised in animal and cellular models which are KO for PARP-3, these results were published in Cell Death and Disease (First Author) (Q1, 2020). In December 2019 I was awarded with a Juan de la Cierva - Incorporación contract to get back to the IPBLN-CSIC. In May 2020 I started working in tumor biology and mitochondria metabolism, where I was allowed on the one hand to evaluate the impact of PARP inhibitor treatment on glioblastoma (GBM) progression. We have demonstrated that treatment with a new generation of PARP inhibitors promotes an adaptive pathway in GBM, based on the mobilization and consumption of lipids through the autophagy pathway (lipophagy) and compromising the mitochondria homeostasis. The project releases interesting data for the therapeutic future of one of the tumors with the worst prognosis today; this work was published in Cancers (First and Corresponding Author (Q1, 2022). Finally, my second current project analyze transcriptional function of HIF-1α (Hypoxia-inducing factor 1α) on mitochondria genome and mitochondria dynamic during hypoxia. We have demonstrated the stabilization of HIF-1α in the mitochondrial matrix in several cancer cell lines and how treatment with inhibitors blocks HIF-1α translocation and loss of mitochondrial stability. Finally, tumor cells become more sensitive to complementary treatments and to the effect of hypoxia, as PARP inhibitors or intercalating agents. In September 2023, I have benefited from a postdoctoral contract from the University of Granada (*P9. Programa de Proyectos de Investigación para la Incorporación de Jóvenes Doctores a Nuevas Líneas de Investigación en Grupos de la Universidad de Granada*) to begin my third long-term postdoctoral / professor period in the Department of Cell Biology at the University of Granada. Our discoveries will open novel future therapeutic expectations of HIF factors not only in cancer, but in the treatment and knowledge of Mitochondria Diseases (Mitochondrial myopathy, Diabetes Mellitus and Deafness (DAD), Leber's Hereditary Optic Neuropathy (LHON) or Leigh Syndrome); for which there are no effective treatments.

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

C.1. Publications (10 most relevant publications)

1. José Manuel Rodríguez-Vargas*; Jara Majuelos-Melguizo*; Nuria Martínez-López; et al; F. Javier Oliver. 2022. Glioblastoma cells counteract PARP inhibition through pro-survival induction of lipid droplets synthesis and utilization. Cancers. 14(726):1-19. * co-Author **(1/10 CA)**.

2. Zamudio-Martínez E, Herrera-Campos AB, Muñoz A, **Rodríguez-Vargas JM**, Oliver FJ. 2021. Tankyrases as modulators of pro-tumoral functions: molecular insights and therapeutic opportunities. J Exp Clin Cancer Res. Vol.40(1): 144:1-15. **(4/5 CA)**.

3. Juan Manuel Martí; Ángel García-Díaz; Daniel Delgado-Bellido; et al; F Javier Oliver. 2021. Selective modulation by PARP-1 of HIF-1α-recruitment to chromatin during hypoxia is required for tumor adaptation to hypoxic conditions. Redox Biology. Vol.41-101885: 1-15. **(7/16)**.

4. José Manuel Rodríguez-Vargas; Kathline Martin; Wei Wang; et al; Françoise Dantzer. 2020. Parp3 promotes astrocytic differentiation through a tight regulation of Nox4-induced ROS and mTorc2 activation. Cell Death and Disease.Vol.11(11)-954:1-17. **(1/10)**.
5. José Manuel Rodríguez-Vargas; Francisco Javier Oliver Pozo; Françoise Dantzer. 2019. PARP1 and Poly(ADP-ribosyl) ation Signaling during Autophagy in Response to Nutrient Deprivation. Oxid Med Cell Longev. Vol.2019-2641712:1-15. **(1/3 CA)**.
6. José Manuel Rodríguez-Vargas; Léonel Nguekeu-Zebaze; Françoise Dantzer. 2019. PARP3 comes to light as a prime target in cancer therapy. Cell Cycle. Vol. 18(12):1295-1301. **(1/3)**.
7. Carole Beck*; **José Manuel Rodríguez-Vargas***; Christian Boehler; et al; Françoise Dantzer. 2019. PARP3, a new therapeutic target to alter Rictor/mTORC2 signaling and tumor progression in BRCA1-associated cancers. Cell Death and Differentiation. Vol.26(9):1615-1630. * co-Author **(1/12)**.
8. José M Rodríguez-Vargas; María I Rodríguez; Jara Majuelos-Melguizo; et al; F Javier Oliver. 2016. Autophagy requires poly (adp-ribosyl) ation-dependent AMPK nuclear export. Cell Death and Differentiation. Vol.23(12):2007-2018. **(1/11)**.
9. José Manuel Rodríguez-Vargas; María José Ruiz-Magaña; Carmen Ruiz-Ruiz; et al; F Javier Oliver. 2012. ROS-induced DNA damage and PARP-1 are required for optimal induction of starvation-induced autophagy. Cell Research. Vol.22(7):1181-1198. **(1/12)**.
10. José Antonio Muñoz-Gámez*; **José Manuel Rodríguez-Vargas***; Rosa Quiles-Pérez; et al; F Javier Oliver. 2009. PARP-1 is involved in autophagy induced by DNA damage Autophagy. Vol5(1):61-74. doi: 10.4161/auto.5.1.7272. * co-Author **(1/10)**.

C.2. Congress (5 most relevant national and international congresses/symposiums)

1. José Manuel Rodríguez Vargas. *Selective mitochondrial translocation of HIF1α modulates dynamics and mitochondrial functions*. VII Annual Meeting of the Spanish Group of Hypoxia. IBSAL-CSIC. Salamanca 24-25 November 2022. Oral Presentation.
2. José Manuel Rodríguez-Vargas, Magnar Björas, Françoise Dantzer. *PARP3 secures redox homeostasis during normal and stress-induced astrocytic differentiation.* The PARP Family & ADP-ribosylation. Cold Spring Harbor, NY. 22-23 December 2020. ON LINE. Oral Presentation.
3. José Manuel Rodríguez-Vargas. *PARP3 in continuous and stress-induced neurogenesis.* Journées du Campus d'Illkirch 2017 "L'homme réparé, L'homme augmenté". Pôle API Université de Strasbourg, 27 Mars 2017. Oral Presentation.
4. Rodríguez-Vargas JM, Rodríguez-Lara MI, López-Rivas, A, Dantzer F, Oliver-Pozo FJ. Role of *PARP1 and Poly ADP-ribosylation in the activation of AMPk1α and induction of starvation-induced autophagy*. IV Encuentro Científico de Jóvenes Investigadores de la RTICC. Universidad de Salamanca.23 September 2014. Poster.
5. Rodríguez-Vargas JM, López-Rivas A, Jäättelä M, Oliver-Pozo, FJ. *ROS-induced DNA damage and PARP-1 are required for optimal induction of starvation-induced autophagy*. 1st International Congress of Cell Death in Cancer. Université de Bretagne. Saint Malo. 12-15 May 2012. Oral Presentation.

C.3. Research projects (Work Team Member, Research Team Member)

PhD Period 2007-2013 Work Team Member

1. Title: Poli (ADP-ribosa) Polimerasa-1: Una Nueva Diana Anti-Angiogénica en la Terapia Antineoplásica. Reference: 18/09/2006-30/11/2009. Funding Body: Fundación LA CAIXA. Participating Entities: CSIC. Date: 2007-2009. Amount of the Grant: 120000€. PI: Javier Oliver Pozo (IPBLN-CSIC). Type of Participation: PhD Student.
2. Title: Modulación por PARP-1 de la Agresividad Tumoral: Papel en la Respuesta Hipóxica y en la Transición Epitelio Mesénquima (EMT). Reference: SAF2009-13281-C02-01. Funding Body: Ministerio de Ciencia e Innovación. Participating Entities: CSIC, Universidad de Granada. Date: 2010-2012. Amount of the Grant: 181500€.PI: Javier Oliver Pozo. Type of Participation: Researcher.

Postdoctoral Stage 2014-2023 Research Team Member, Principal Researcher

1. Title: PARP3 in continuous and stress-induced neurogenesis. Reference: USIAS Fellow Award USIAS-2017-029. Funding Body: The University of Strasbourg Institute for Advanced Study (USIAS). Participating Entities: Université de Strasbourg – École Supérieure de Biotechnologie de Strasbourg

(ESBS). Date: 2017-2020. Amount of the Grant: 130000€. PI: Françoise Dantzer (ESBS-UNISTRA). Type of Participation: Research Team Member and Principal Researcher.

2. Title: Control of tumor microenvironment by Poly (ADP-ribosylation). Sensitizing hypoxic cancer cells to PARP inhibitors through targeting mitochondria. Reference: IJC2018-036412-I. Funding Body: Ministerio de Ciencia E Innovación. Date: May 2020 – August 2023. Amount of the Grant: Salary Contract + 6000€. PI: José Manuel Rodríguez Vargas (IPBLN-CSIC). Type of Participation: Principal Researcher.

3. Title: Reparación de Daños en el ADN inducido por Agentes Alquilantes: Potencial Diana Terapéutica en Tripanosomátidos. Reference: PID2021-124911OB-I00. Funding Body: Ministerio de Ciencia, Innovación y Universidades. Date: 2022-2024. Amount of the Grant: 160000€. PI: Antonio Esteban Vidal Romero (IPBLN-CSIC). Type of Participation: Research Team Member.

C.4. Contracts, technological or transfer merits

Contracts (competitive, national):

1. Title: Control por PARP-1 de la Autofagia Tumoral: Implicaciones en la transformación maligna y en la respuesta al tratamiento. Reference: SAF2012-40011-C02-01. Funding Body: Ministerio de Ciencia e Innovación. Participating Entities: CSIC. Date: 2013-2015. Amount of the Grant: 152100€. PI: Javier Oliver Pozo (IPBLN-CSIC). Type of Participation: Postdoctoral Researcher Salary, Principal Researcher.

2. Title: Contrato de Investigador Programa P9 "Proyectos de investigación para la incorporación de jóvenes doctores". Reference: Solicitud37. Funding Body: Plan Propio de Investigación y Transferencia UGR. Participating Entities: Universidad de Granada. Date: 01/09/2023. Amount of the Contract: 90000€. PI: José Manuel Rodríguez Vargas. Type of Participation: Postdoctoral Researcher Salary, Principal Researcher.

3. Title: Contrato Programa Ayudas Investigador AECC 2023. Reference: INVES235099RODR. Funding Body: Patronato de la Fundación Científica de la Asociación Española contra el Cancer (AECC). Participating Entities: AECC, CSIC. Date: 01/12/2023. Amount of the Contract: 200000€. PI: José Manuel Rodríguez Vargas. Type of Participation: Postdoctoral Researcher Salary, Principal Researcher. CURRENT STATE: RENUNCIA POR INCOMPATIBILIDAD.

Merits (competitive, national):

1. PhD Student 2008-2012. Program JAE i3P CSIC. Funding Entity: Ministerio de Ciencia e Innovación. Date 2007. Modality: Competitive, National. Institute of Parasitology and Biomedicine "López-Neyra" IPBLN-CSIC, Granada, Spain. PhD Student.

2. Postdoctoral Stage 2015-2017. Program XXVII Convocatoria para Ampliación de Estudios en el Extranjero en Ciencias de la Vida y de la Materia 2015-2017 from the Ramón Areces Foundation.Date 2015. Modality: Competitive, National. École Supérieure de Biotechnologie de Strasbourg (UMR7242-ESBS), Université de Strasbourg (UNISTRA), Strasbourg, France. Principal Researcher.

Merits (competitive, international):

1. PhD Researcher 2014. EMBO Postdoc Short-Term Fellowships Reference ASTF 32-2014. Date 2014. Modality: Competitive, International. École Supérieure de Biotechnologie de Strasbourg (UMR7242- ESBS), Université de Strasbourg (UNISTRA), Strasbourg, France. Principal Researcher.

Quality Indicators:

H-Index	14
Total Number of Publications, Scientific and Technical Documents, Book Chapters	21
Number of 1st author publications	9
Number of corresponding author publications	4
Citing Publications	937
Thesis Doctoral in Progress	1
Defended Thesis Doctoral	1
Defended Master's Degree Projects	4
Master´s Degree Projects in Progress	2