MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

CURRICULUM VITAE (maximum 4 pages)

Part A. PERSONAL INFORMATION

CV date	May 18, 2021

First and Family name	Francisco David Martín Oliva	
Researcher numbers	Researcher ID	L-8472-2014
	Orcid code	0000-0002-8095-5442

A.1. Current position

Name of University /Institution	Universidad de Granada			
Department	Biología Celular / Facultad de Ciencias			
Address and Country	Avda. Severo Ochoa s/n			
Phone number	958243232	E-mail	dmoliva@ugr.es	
Current position	Associate Profesor with tenure (Titular de Universidad)		From	July 2012
Espec. cód. UNESCO	2407 (Biología Celular)			
Key words	Neurosciences, oxidative stress, cell signaling, cell death			

A.2.Education

PhD	University	Year
PhD of Science	Universidad de Granada	2005
Bachelor in Biology	Universidad de Granada	1999

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

- H-index (JCR) = 16
- JCR articles= 33 (25 Q1);
- Total of cites: 1186; Average number/year (last 5 years): 103.8
- Thesis supervised: 2
- Periods of six-years research: **3** (date of the last: 05/06/2019)

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

My scientific career began in a research group in the field of "Molecular Oncology" (year 2001) studying the role of the PARP-1 protein in carcinogenesis, thanks to the grant “predoctoral fellowship” from the Instituto de Salud Carlos III, and developed at the San Cecilio Clinical Hospital in Granada, under the direction of Dr. Javier Oliver Pozo. During this training formation I participated in the publication of 3 research articles, two of them published as first author in journals of special relevance in the field of oncology (Oncogene and Cancer Research). This last article was awarded the University of Granada Award for "Excellence Research Projects", in its 2007 edition. In this predoctoral step, I contributed to the knowledge of the molecular basis by which the inhibition of the PARP-1 protein confers resistance to the development of tumors, and specifically, its relation with the hypoxia-inducible factor (HIF). This has allowed me to participate as a researcher in 6 projects of national programs, 1 project of Excellence of the Junta de Andalucía and 1 European project. In addition to my experience in the field of molecular oncology, I am coauthor of 12 scientific publications in which I have deepened on the role of the enzyme PARP-1 in various processes such as inflammation, oxidative stress, cell death, progression tumor, kidney damage, etc.

Since my incorporation at the Department of Cell Biology of the University of Granada in October 2005 I have developed part of my research in the field of Neuroscience, within the research group of the Junta de Andalucía "BIO178 - Embryology of the Nervous System". In this subject I have participated in 5 research projects and I supervised 2 Doctoral Thesis on the biology of microglial and retinal cells. Thanks to these researches, I am coauthor of 12 scientific publications in the field of Neuroscience. In short, I have extensive research experience of more than 15 years in the study of the enzyme PARP-1 and in the biology of microglial cells. Currently, I investigate the effects of PARP-1 inhibitors on photoreceptor and hepatic cells suffering oxidative damage using a new experimental approach based on phosphoproteomics techniques (Martín-Guerrero et al, 2019; Martín-Guerrero et al, 2020). Finally, I also collaborate as researcher in a project of the national program (Ministerio de

Ciencia, Innovación y Universidades; Ref RTI2018-097344-B-I00) to generate a cellular model of schizophrenia to advance on the knowledge of the mechanism of action of antipsychotics.

Part C. RELEVANT MERITS

C.1. Publications (including books)

1-Martín-Guerrero SM, Casado P, Hijazi M, Rajeeve V, Plaza-Díaz J, Abadía-Molina F, Navascués J, Cuadros MA, Cutillas PR, Martín-Oliva D. PARP-1 activation after oxidative insult promotes energy stress-dependent phosphorylation of YAP1 and reduces cell viability. Biochem J. 2020 Dec11;477(23):4491-4513. doi: 10.1042/BCJ20200525. PMID: 33146386.

2-Morales-Ropero JM, Arroyo-Urea S, Neubrand VE, Martín-Oliva D, Marín-Teva JL, Cuadros MA, Vangheluwe P, Navascués J, Mata AM, Sepúlveda MR. The endoplasmic reticulum Ca²⁺ -ATPase SERCA2b is upregulated in activated microglia and its inhibition causes opposite effects on migration and phagocytosis. Glia. 2021 Apr;69(4):842-857. doi: 10.1002/glia.23931. Epub 2020 Oct 26. PMID:33105046.

3-Quinonero F, Cepero A, Urbano D, Munoz-Gamez JA, Martin-Guerrero SM, Martin-Oliva D, Prados J, Melguizo C, Ortiz R. Identification of PARP-1 in cancer stem cells of gastrointestinal cancers: A preliminary study. J Biosci. 2021;46:6. PMID: 33576344.

Martín-Guerrero SM, Alonso P, Iglesias A, Cimadevila M, Brea J, Loza MI, Casado P, Martín-Oliva D, Cutillas PR, González-Maeso J, López-Giménez JF. His452Tyr polymorphism in the human 5-HT_{2A} receptor affects clozapine-induced signaling networks revealed by quantitative phosphoproteomics. Biochem Pharmacol. 2021 Mar;185:114440. doi: 10.1016/j.bcp.2021.114440. Epub2021 Feb 1. PMID: 33539816

Martín-Guerrero SM, Munoz-Gamez JA,…Martín-Oliva D. Poly(ADP-ribose)polymerases inhibitors prevent early mitochondrial fragmentation and hepatocyte cell death induced induced by H2O2. PLoS One 2017; 12(10):e0187130.

Martín-Guerrero SM, León J, Quiles-Perez R, Belmonte L, Martin-Oliva D, Ruiz-Extremera Á, Salmerón J, Muñoz-Gámez JA. Expression and Single Nucleotide Polymorphism of Poly (ADPRibose) Polymerase-1 in Gastrointestinal Tumours: Clinical Involvement. Curr Med Chem. 2017; 24(20):2156-2173. doi: 10.2174/0929867324666170316115039.

Martin-Oliva D, Martín-Guerrero SM,…Cuadros MA. DNA damage, Poly(ADP-Ribose) Polymerase activation, and phosphorylated Histone H2AX expression during postnatal retina development in C57/BL6 mouse. Investigative Ophthalmology & Visual Science 2015; 56(2):1301-1309.

Ferrer-Martín RM, Martín-Oliva D, Sierra-Martín A, Carrasco MC, Martín-Estebané M, Calvente R, Martín-Guerrero SM, Marín-Teva JL, Navascués J, Cuadros MA. Microglial Activation Promotes Cell Survival in Organotypic Cultures of Postnatal Mouse Retinal Explants. PLoS One. 2015 Aug 7;10(8):e0135238. doi: 10.1371/journal.pone.0135238.

Ferrer-Martín RM, Martín-Oliva D, Sierra A, Carrasco MC, Martín-Estebané M, Calvente R, Marín-Teva JL, Navascués J, Cuadros MA. Microglial cells in organotypic cultures of developing and adult mouse retina and their relationship with cell death. Exp Eye Res. 2014 Apr;121:42-57. doi: 10.1016/j.exer.2014.02.015.

Sierra A, Navascués J, Cuadros MA, Calvente R, Martín-Oliva D, Ferrer-Martín RM, Martín-Estebané M, Carrasco MC, Marín-Teva JL. Expression of inducible nitric oxide synthase (iNOS) in microglia of the developing quail retina. PLoS One. 2014 Aug 29;9(8):e106048. doi: 10.1371/journal.pone.0106048.

Gonzalez-Flores A, Aguilar-Quesada R, Siles E, Pozo S, Rodríguez-Lara MI, López-Jiménez L, López-Rodríguez M, Peralta-Leal A, Villar D, Martín-Oliva D, del Peso L, Berra E, Oliver FJ.

Interaction between PARP-1 and HIF-2α in the hypoxic response. Oncogene. 2014 Feb 13;33(7):891-8. doi: 10.1038/onc.2013.9.

Martin-Oliva D, Ferrer-Martín RM,…Cuadros MA. Simultaneous cell death and upregulation of Poly(ADP-ribose) Polymerase-1 (PARP-1) expression in early postnatal mouse retina. Investigative Ophthalmology & Visual Science 2011; 52(10):7445-7454.

Marín-Teva JL, Cuadros MA, Martin-Oliva D, Navascués J. Microglia and neuronal cell death. Neuron Glia Biology 2011; 7(1):25-40.

Carrasco MC, Navascués J, Cuadros MA, Calvente R, Martín-Oliva D, Santos AM, Sierra A, Ferrer-Martín RM, Marín-Teva JL. Migration and ramification of microglia in quail embryo retina organotypic cultures. Dev Neurobiol. 2011 Apr;71(4):296-315. doi: 10.1002/dneu.20860

Santos AM, Martín-Oliva D, Ferrer-Martín RM, Tassi M, Calvente R, Sierra A, Carrasco MC, Marín-Teva JL, Navascués J, Cuadros MA. Microglial response to light-induced photoreceptor degeneration in the mouse retina. J Comp Neurol. 2010 Feb 15;518(4):477-92. doi: 10.1002/cne.22227.

Quiles-Perez R, Muñoz-Gámez JA, Ruiz-Extremera A, O'Valle F, Sanjuán-Nuñez L, Martín-Alvarez AB, Martín-Oliva D, Caballero T, Muñoz de Rueda P, León J, Gonzalez R, Muntané J, Oliver FJ, Salmerón J. Inhibition of poly adenosine diphosphate-ribose polymerase decreases hepatocellular carcinoma growth by modulation of tumor-related gene expression. Hepatology. 2010 Jan;51(1):255-66. doi: 10.1002/hep.23249.

C.2. Research projects and grants

▪ Ref: B-CTS-185-UGR18. Title: Interacción de la enzima Poli-ADP-Ribosa Polimerasa-1 con la señalización Hippo en la enfermedad por higado graso. Funding: Programa Operativo FEDER Junta de Andalucía 2014-2020. Convocatoria 2018. IP: Francisco David Martín Oliva. Affiliation entity: Dpto. de Biología Celular. Universidad de Granada. From: 01/01/2020 to 31/12/2021. Grant value: 6.000 E. Participation: IP.

▪ Ref RTI2018-097344-B-I00. Title: Generación de un nuevo modelo celular de esquizofrenia para el avance en el conocimiento del mecanismo de acción de los antipsicóticos. Funding: Ministerio de Ciencia, Innovación y Universidades. Programa Estatal de I+D+i Orientada a los Retos de la Sociedad, año 2018. IP: Juan Francisco López Giménez. Affiliation entity: Instituto de Parasitología y Biomedicina “López-Neyra” (CSIC, Granada). From: 01/01/2019 to 31/12/2021. Grant value: 133.000 E. Participation: Researcher (50%).

▪ Ref BFU2010-19981. Title: Biología de las células microgliales en la retina: origen y mecanismos de migración. Funding: Ministerio de Ciencia e Innovación. Proyectos de Investigación Fundamental no orientada, año 2010. IP: Julio Navascués Martínez. Affiliation entity: Dpto. de Biología Celular. Universidad de Granada. From: 01/01/2011 to 30/09/2014. Grant value: 140.360 E. Participation: Researcher.

▪ Ref: GREIB.PYR_2011_19. Title: Muerte celular programada durante el desarrollo de la retina de ratón: relación entre el estrés oxidativo y la activación de la Poli-ADP-Ribosa-Polimerasa-1. Funding: Ministerio de Ciencia e Innovación. Campus de Excelencia Internacional (CEIBioTic Granada). GREIB start-up projects for young researchers, convocatoria 2011. IP: Francisco David Martín Oliva. Affiliation entity: Dpto. de Biología Celular. Universidad de Granada. From: 22/07/2011 to 31/12/2011. Grant value: 3.000 E. Participation: IP.

▪ Ref: P07-CVI-03008. Title: Determinación del papel de la microglia en la muerte de fotorreceptores durante procesos degenerativos de la retina. Funding: Conserjería de Innovación, Ciencia y Empresa, Junta de Andalucia. Proyectos de Investigación de Excelencia (BOJA núm. 63, de 29 de marzo de 2007). IP: Miguel Ángel Cuadros Ojeda. Affiliation entity: Dpto. de Biología Celular. Universidad de Granada. From: 31/01/2008 to 31/12/2012. Grant value: 194.768 E. Participation: Researcher.

▪ Ref: BFU2007-61659. Title: Migración y activación de la microglia inmadura durante el desarrollo de la retina de vertebrados. Funding: Ministerio de Educación y Ciencia. Convocatoria: Proyectos de I+D 2007. IP: Julio Navascués Martínez. Affiliation entity: Dpto. de Biología Celular. Universidad de Granada. From: 01/10/2007 to 04/10/2010. Grant value: 183.920 euros. Participation: Researcher.

C.3. Contracts

- **Employment contrat**: Technical staff associated with the project (ref. SAF2004-00889 **"**Cáncer de mama: posibilidades de diagnostico e individualización terapéutica basadas en el conocimiento y en la modulación del estado de metilación del ADN". **Affiliation entity**: Universidad de Granada. **Funding**: Ministerio de Educación y Ciencia. **From**: 14/08/2005 **to** 30/09/2005.

C.4. Patents

C.5. Supervision of Doctoral thesis and other research works

- Doctoral thesis:

Title: Estrés oxidativo y muerte celular en la retina neural y en otros sistemas. Implicación de la enzima Poli-ADP-Ribosa-Polimerasa-1 (PARP-1). PhD Sandra M Martín Guerrero (scholarship Ref FPU14/02219). Doctoral thesis was read and defended al University of Granada (Sobresaliente *Cum Laude*). Date: 05/12/2019

Title: Muerte celular fisiológica y comportamiento de la microglia en cultivos organotípicos de retina de ratón. PhD: Rosa María Ferrer Martín. Doctoral thesis was read and defended al University of Granada (Sobresaliente *Cum Laude*). Date: 18/07/2013

- Master:

Título: Papel de la enzima Poli-ADP-Ribosa-Polimerasa-1 en la muerte celular inducida por estrés oxidativo (Máster en Biotecnología). Student: Sandra María Martín Guerrero. Universidad de Granada. Facultad de Ciencias. Date: 17/07/2015.

Título: Expresión de fractalquina y su relación con la microglía en retinas de ratón fotodegeneradas (Máster en Biotecnología). Student: María Martín Estebané. Universidad de Granada. Facultad de Ciencias. Date: 11/12/2011.

C.6. Awards

▪ FEAD 2017 (Fundación Española del Aparato Digestivo): Best oral presentation in Liver section. Title: La inhibición farmacológica de PARP-1 protege a la línea celular WRL68 (hepatocitos embrionarios humanos) de una disfunción mitocondrial inducida por especies reactivas de oxígeno. Congress: Semana de las Enfermedades Digestivas 2017. Date: 09/06/2017 - 11/06/2017.

▪ Prize of University of Granada "Excellent Research Works (2007)", granted to the research article ¨Inhibition of PARP modulates tumor-related gene expression, including HIF-1 activation, during skin carcinogenesis¨, Cancer Research 2006, Vol. 66: 5744-5756.

C.7. Other merits

Scientific referee of manuscripts from international journals of neuroscience and related categories (Journal of Neuroscience Research, Cell & Tissue Research, Biochemical Journal, PLoS One, etc).