CV Date	10/09/2025

Part A. PERSONAL INFORMATION

First Name	Oscar		
Family Name	Escribano Illanes		
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]		
[redacted]	[redacted]		
Email Address	oescriba@ucm.es		
Open Researcher and Contributor ID (ORCID)	0000-0002-8249-1645		

A.1. Current position

Job Title	Full Professor		
Starting date	06/06/2025		
Institution	Complutense University of Madrid		
Department / Centre	Biochemistry and Molecular Biology. School of Pharmacy.		
Country	Spain	[redacted]	[redacted]
Keywords	miRNAs, MASLD, atherosclerosis, diabetes, gene therapy		

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

Period	Job Title / Name of Employer / Country
2020-2025	Profesor Titular de Universidad / Complutense University of Madrid/ Spain
2019 - 2020	Profesor Contratado Doctor / Complutense University of Madrid/ Spain
2016 - 2019	Profesor Contratado Doctor Interino / Complutense University of Madrid/ Spain
2016 - 2016	Profesor Visitante / Complutense University of Madrid/ Spain
2011 - 2016	Profesor Ayudante Doctor / Complutense University of Madrid/ Spain
2010 - 2011	Investigador Postdoctoral "Sara Borrell" / Center for Research on Energy, Environment and Technology (CIEMAT)/ Spain
2008 - 2009	Investigador Postdoctoral "Sara Borrell" / Complutense University of Madrid/ Spain
2004 - 2007	Investigador Postdoctoral "Juan de la Cierva" / Complutense University of Madrid/ Spain
1999 - 2004	Investigador Predoctoral / University of Alcalá de Henares/ Spain

A.3. Education

Degree/Master/PhD	University / Country	Year
PhD in Biochemistry	University of Alcalá de Henares/ Spain	2004
Bachelor in Pharmacy	University of Alcalá de Henares/ Spain	1999

Part B. CV SUMMARY

I earned my degree in Pharmacy from the University of Alcalá in 1999. That year, I began my PhD thesis under the supervision of Drs. Luis González Guijarro and Mª Dolores Fernández Moreno in the Department of Biochemistry and Molecular Biology at the Faculty of Medicine of the same university. My research focused on studying the role of the insulin signaling pathway in liver regeneration induced by clinically used immunosuppressive drugs. This work culminated in my doctoral thesis in 2004, resulting in three high-impact publications, in which I was the first author (Hepatology (2) and

J. of Hepatology), and a fourth paper published in J. of Cell Biochemistry.

In 2004, I was awarded a "Juan de la Cierva" Postdoctoral Fellowship, joining Dr. Manuel Benito's group at the Faculty of Pharmacy, Complutense University of Madrid (UCM). My project involved generating the iLIRKO mouse model (inducible liver insulin receptor knockout), the first animal model for type 2 diabetes progression. This work was published in the prestigious journal *Diabetes* in 2009, where I was the first author.

In 2007, I obtained a Postdoctoral Training Contract (currently known as the Sara Borrell Fellowship) from the Instituto de Salud Carlos III (ISCIII). This project explored mechanisms of vascular damage in our iLIRKO diabetic mouse model. In 2010, I undertook a second postdoctoral position for 14 months at CIEMAT in the Innovative Therapies Unit for the Hematopoietic System (led by Drs. Juan Bueren and Paula Río). There, I developed several viral vectors for use in the iLIRKO model, establishing a new research line in gene therapy. Upon returning to the Faculty of Pharmacy at UCM in 2011 as Assistant Professor, this research line resulted in four publications where I was the Corresponding Author (*Mol Cell Endo* 2015; *Diabetologia* 2016; *Disease Models and Mechanisms* 2016, 2019).

Notably, in 2014, I conducted a research stay at the University of California, San Francisco (USA), funded by an EMBO Short-Term Fellowship, in Prof. McManus' Lab, where I became proficient in large-scale miRNA analysis techniques. In November 2020, I was appointed Associate Professor at the Faculty of Pharmacy, UCM and finally in June 2025 obtained a position as Full Professor in the same Department.

In summary, I have participated as researcher in 17 public and private research projects, serving as Principal Investigator (PI) in three of them ("Santander-UCM Projects" (PR75/18-21572) in 2018 and two "Retos Investigación" projects (RTI2018-095098-B-I00 and PID2021-123076-OB-I00) funded by the Spanish Ministry of Science and Innovation). These projects have established our group as an independent emerging team. I am a co-author of 40 scientific publications, including 27 in Q1 JCR journals and 4 in D1 (*Hepatology* (2), *J. of Hepatology*, and *Diabetes*). Over the last few years, I have been the Corresponding Author on 15 publications. I have presented more than 60 communications at national and international conferences and received two awards from the Royal National Academy of Pharmacy.

Additionally, I have co-supervised three doctoral theses (defended in 2016, 2022, and 2024), mentored 11 Master's Theses, and supervised 20 Bachelor's Theses. I have been recognized with four research periods ("sexenios") by the National Commission for the Evaluation of Research Activity (CNEAI). Finally, I would like to highlight that I have been part of AEI evaluation commissions both for "Retos Investigación" projects and for "Juan de la Cierva" Training contracts and also, I have been the co-organizer of "I Jornadas Complutenses sobre Enfermedades Metabólicas".

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Most important publications in national or international peer-reviewed journals, books and conferences (2014-2025).

1. **Scientific paper.** Aroca-Esteban J, et al., **Escribano Ó***, Gómez-Hernández A*. Potential protective role of let-7d-5p in atherosclerosis progression reducing the inflammatory pathway regulated by NF-κB and vascular smooth muscle cells proliferation. *Biochim Biophys Acta Mol Basis Dis.* 2024 Oct;1870(7):167327. ***Corresponding Authors.**
2. **Bibliographic review.** Gómez-Hernández A, de Las Heras N, Gálvez BG, Fernández-Marcelo T, Fernández-Millán E, **Escribano Ó***. New Mediators in the Crosstalk between Different Adipose Tissues. *Int J Mol Sci.* 2024 Apr 25;25(9):4659. doi: 10.3390/ijms25094659. ***Corresponding Author.**
3. **Scientific paper.** González-López P, Yu Y, Lin S, **Escribano Ó**, Gómez-Hernández A, Gisterå A. Dysregulation of micro-RNA 143-3p as a Biomarker of Carotid Atherosclerosis and the Associated Immune Reactions During Disease Progression. *J Cardiovasc Transl Res*. 2024 Aug;17(4):768-778.
4. **Scientific paper.** González-López P; Álvarez-Villareal M; Ruiz-Simón R; López-Pastor AR; Vega de Ceniga M; Martín-Ventura JL; **Escribano Ó***; Gómez-Hernández A*. Role of miR-15a-5p and miR-199a-3p in the inflammatory pathway regulated by NF-κB in experimental and human aterosclerosis. *Clin Tranl Med* 2023; Aug;13(8):e1363.***Corresponding authors.**
5. **Scientific paper**. Infante-Menéndez J, López-Pastor A, González-Illanes T, González-López P, Huertas-Lárez R, González-Rodríguez A, Patil NP, Vega de Céniga M, Barker AB, Gómez-Hernández

A*, **Escribano O***. Increased let-7d-5p in Non-Alcoholic Fatty Liver promotes insulin resistance and is a potential blood biomarker for diagnosis. *Liver Int.* 2023 Apr 14. ***Corresponding authors.**

6. **Bibliographic review.** Infante-Menéndez J, González-López P, Huertas-Lárez R, **Gómez-**Hernández A*, **Escribano Ó***. Oxidative Stress Modulation by ncRNAs and Their Emerging Role as Therapeutic Targets in Atherosclerosis and Non-Alcoholic Fatty Liver Disease. *Antioxidants* (Basel). 2023 Jan 24;12(2):262. doi: 10.3390/antiox12020262. ***Corresponding authors.**
7. **Scientific paper.** González-López P, Ares-Carral C, López-Pastor AR, Infante-Menéndez J, González Illaness T, Vega de Ceniga M, Esparza L, Beneit N, Martín-Ventura JL, **Escribano Ó***, Gómez-Hernández A**. Implication of miR-155-5p and miR-143-3p in the Vascular Insulin Resistance and Instability of Human and Experimental Atherosclerotic Plaque. *Int J Mol Sci.* 2022;23(18):10253. ***Corresponding authors.**
8. **Scientific paper**. López-Pastor A, Infante-Menéndez J, González-Illanes T, et al., Gómez-Hernández A*, and **Escribano O***. 2021. Concerted regulation of non-alcoholic fatty liver disease progression by microRNAs in apolipoprotein E deficient mice. *Disease Models & Mechanisms*. ***Corresponding authors.**
9. **Scientific edition**. **Escribano O**; Francés DE; Otero YF; Egea J; González-Rodriguez A. 2021. Editorial: "New Insights into Understanding and Managing NAFLD" *Frontiers in Medicine*. https://doi.org/10.3389/fmed.2021.777740.
10. **Scientific paper**. Gómez-Hernández A*; de las Heras N; López-Pastor AR; et al; **Escribano O***. 2021. Severe Hepatic Insulin Resistance Induces Vascular Dysfunction: Improvement by Liver-Specific Insulin Receptor Isoform A Gene Therapy in a Murine Diabetic Model. *Cells*. ***Corresponding authors.**
11. **Bibliographic review**. Lopez-Pastor AR; Infante-Menendez J; **Escribano O***; Gomez-Hernandez A*. 2020. miRNA Dysregulation in the Development of Non-Alcoholic Fatty Liver Disease and the Related Disorders Type 2 Diabetes Mellitus and Cardiovascular Disease. *Frontiers in Medicine*. 22;7:527059. ***Corresponding authors.**
12. **Bibliographic review**. Infante-Menendez J; Lopez-Pastor AR; Gonzalez-Lopez P; Gomez-Hernandez A*; **Escribano O***. 2020. The Interplay between Oxidative Stress and miRNAs in Obesity-Associated Hepatic and Vascular Complications. *Antioxidants*. 10;9(7):607. ***Corresponding authors.**
13. **Scientific paper**. Gomez-Hernandez A.; Lopez-Pastor AR.; Rubio-Longas C.; et al; **Escribano O** and Benito M. 2020. Specific knockout of p85α in brown adipose tissue induces resistance to high-fat diet–induced obesity and its metabolic complications in male mice *Molecular Metabolism*. Elsevier. 31, pp.1-13. (11/12)
14. **Scientific paper**. Lopez-Pastor AR; Gomez-Hernandez A; Diaz-Castroverde S; et al; **Escribano O*;** and Benito M. 2019. Liver-specific insulin receptor isoform A expression enhances hepatic glucose uptake and ameliorates liver steatosis in a mouse model of diet-induced obesity. *Disease Models & Mechanisms*. 12(2): dmm036186 https://doi.org/10.1242/dmm.036186. ***Corresponding author.**
15. **Scientific paper**. Beneit N; Martín-Ventura JL; Rubio-Longás C; **Escribano O** et al; Benito M. 2018. Potential role of insulin receptor isoforms and IGF receptors in plaque instability of human and experimental atherosclerosis. *Cardiovasc Diabetol*. 17(1):31.
16. **Scientific paper**. de las Heras N; Klett-Mingo M; Ballesteros, S; et al; **Escribano O**; Gomez-Hernandez, A. 2018. Chronic Exercise Improves Mitochondrial Function and Insulin Sensitivity in Brown Adipose Tissue *Frontiers in Physiology*. 9:1122.
17. **Bibliographic review**. **Escribano O***; Beneit N; Rubio-Longás C; López-Pastor AR; Gómez-Hernández A*. 2017. The Role of Insulin Receptor Isoforms in Diabetes and Its Metabolic and Vascular Complications *J Diabetes Res*. ***Corresponding authors.**
18. **Scientific paper**. Beneit N; Fernández-García CE; Martín-Ventura JL; et al; **Escribano Ó**; Benito M. 2016. Expression of insulin receptor (IR) A and B isoforms, IGF-IR, and IR/IGF-IR hybrid receptors in vascular smooth muscle cells and their role in cell migration in atherosclerosis. *Cardiovascular Diabetology*. 15-1, pp.161.
19. **Scientific paper**. Diaz-Castroverde S; Baos S; Luque M; et al; **Escribano O*** and Benito M. 2016. Prevalent role of the insulin receptor isoform A in the regulation of hepatic glycogen metabolism in hepatocytes and in mice. *Diabetologia*. 59-12, pp.2702-2710. ***Corresponding author.**

20. **Scientific paper**. Diaz-Castroverde S; Gómez-Hernández A; Fernández S; et al; **Escribano O***; Benito M. 2016. Insulin receptor isoform A ameliorates long-term glucose intolerance in diabetic mice. *Disease Models & Mechanisms*. 9-11, pp.1271-1281. ***Corresponding author.**
21. **Scientific paper**. Gomez-Hernandez A; Beneit N; **Escribano O**; Diaz-Castroverde, S; Garcia-Gomez G; Fernandez S; Benito M. 2016. Severe Brown Fat Lipoatrophy Aggravates Atherosclerotic Process in Male Mice. *Endocrinology*. 157-9, pp.3517-3528.
22. **Scientific paper**. Gomez-Hernandez A*; Beneit N; Diaz-Castroverde S; **Escribano O***. 2016. Differential Role of Adipose Tissues in Obesity and Related Metabolic and Vascular Complications. *International Journal of Endocrinology*. 2016, pp.1216783-1216783. ***Corresponding authors.**
23. **Scientific paper**. A Gomez-Hernandez; N Beneit; L Perdomo; **O Escribano**; S Diaz-Castroverde; M Benito. 2016. Role of insulin receptor A isoform and IGF-1R in the development of atherosclerotic plaque. An Real Acad Farm. 82, pp.129-142.
24. **Scientific paper**. **Escribano O***; Gomez-Hernandez A; Diaz-Castroverde S; et al; Benito, M. 2015. Insulin receptor isoform A confers a higher proliferative capability to pancreatic beta cells enabling glucose availability and IGF-I signaling. *Molecular and Cellular Endocrinology*. 409-C, pp.82-91. ***Corresponding author.**
25. **Scientific paper**. L Perdomo; N Beneit; Y Fernandez Otero; **Ó Escribano**; S Diaz-Castroverde; A Gomez-Hernandez; M Benito. 2015. Protector role of oleic acid against cardiovascular insulin resistance and in the early and late cellular atherosclerotic process. *Cardiovascular Diabetology.* Jun 10;14:75.
26. **Scientific paper**. A Gomez Hernandez; L Perdomo; N de las Heras; et al; M Benito. 2014. Antagonistic effect of TNF-alpha and insulin on UCP-2 expression and vascular damage. *Cardiovascular Diabetology*. 13, pp.108-114.

C.2. Research projects and contracts

1 **Project**. Targeting miR-155-5p, miR-149-5p, let-7d-5p and miR-143-3p as an approach for Non-Alcoholic Fatty Liver Disease and Atherosclerosis treatment. (PID2021-123076OB-I00). Ministerio de Ciencia, Innovación y Universidades. PIs: Oscar Escribano Illanes and Almudena Gómez. 01/09/2022-30/08/2025. 108.900 €.

2 **Project**. Los miRNAs como mediadores clave de la fisiopatología de la EHGNA y el daño vascular asociado. Universidad Complutense de Madrid. PIs: Oscar Escribano Illanes and Almudena Gómez. (UCM). 01/03/2022-31/12/2022. 6.004,2 €.

3 **Project**. Los miRNAs exosomales como mediadores clave de la fisiopatología del hígado graso no alcohólico y el daño vascular asociado en humanos y ratones. (RTI-2018-095098-B100; Ministerio de Ciencia, Innovación y Universidades). PIs: Oscar Escribano Illanes and Almudena Gómez. 01/01/2019-31/08/2022. 96.800 €.

4 **Project**. Nuevos miRNAs como biomarcadores y posibles dianas terapéuticas en el tratamiento de pacientes con esteatosis hepática no alcohólica y enfermedad cardiovascular asociada. Oscar Escribano Illanes. (Universidad Complutense de Madrid). 01/12/2018-30/11/2019. 11.000 €.

5 **Project**. Mecanismos moleculares de formación de tejido adiposo marrón y de marronización: resistencia a la obesidad. Ministerio de Ciencia e Innovación. PI: Manuel Benito de las Heras. (Universidad Complutense de Madrid). 01/01/2015-31/12/2017. 200.000 €. Team member.

6 **Project**. Estudio de los mecanismos de resistencia a insulina: implicaciones en obesidad, diabetes y síndrome metabólico (MOIR). Comunidad de Madrid. MANUEL R. BENITO DE LAS HERAS. (Universidad Complutense de Madrid). 01/01/2012-31/12/2015. 70.000 €. Team member.

7 **Project**. Papel de la formación y función del tejido adiposo marrón sobre la patogénesis de la obesidad: Recuperación de la función termogénica marrón como terapia antiobesidad. MINISTERIO DE CIENCIA E INNOVACIÓN. MANUEL R. BENITO DE LAS HERAS. (Universidad Complutense de Madrid). 01/01/2012-31/12/2014. 363.000 €.

8 **Project**. Modelos animales y celulares de resistencia a la insulina: daño cardiovascular. MINISTERIO DE CIENCIA E INNOVACIÓN. MANUEL R. BENITO DE LAS HERAS. 01/01/2009-31/12/2011. 326.700 €.

9 **Project**. CIBER DE DIABETES Y ENFERMEDADES METABÓLICAS (CIBERDEM). Ref: CB07/08/0001. Manuel Benito De las Heras. (Universidad Complutense de Madrid). From 01/01/2008-.

CURRICULUM VITAE (CVA)

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

CV date	15/07/2025

Part A. PERSONAL INFORMATION

First name	Petronila		
Family name	Penela Márquez		
Gender (*)	female	[redacted]	[redacted]
[redacted]	[redacted]		
e-mail	ppenela@cbm.csic.es Petronila.penela@uam.es	[redacted]	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-0434-4738	

(*) Mandatory

A.1. Current position

Position	Associate Professor of Biochemistry and Molecular Biology		
Initial date	2017		
Institution	Universidad Autónoma de Madrid (UAM)		
Department/Center	Departamento Biología Molecular UAM	Centro de Biología Molecular Severo Ochoa (UAM-CSIC)	
Country	Spain	[redacted]	[redacted]
Key words	cellular signaling, regulation of GRKs, GPCRs, cell motility, proliferation, angiogenesis, tumor progression, resistance, genomic instability		

A.2. Previous professional status (including breaks in research career, according to what is indicated in the call, indicate total months)

Period	Position/Institution/Country/Interruption cause
2009-2017	Lecturer (Profesor Contratado Doctor) / Universidad Autónoma de Madrid/ Spain
2005-2009	"Ramón y Cajal" Contract / Universidad Autónoma de Madrid / Spain
2004-2005	Researcher MAIN-UE Network/ Universidad Autónoma de Madrid/ Spain
2002-2004	I3P Program Researcher /Eladio Viñuela Institute of CSIC/ Spain
2000-2002	CAM Posdoctoral Fellow / Universidad Autónoma de Madrid/ Spain
1997-1999	Postdoctoral researcher / Universidad Autónoma de Madrid/ Spain
1992-1996	CAM FPI Predoctoral Fellow / Universidad Autónoma de Madrid/ Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Biochemistry	Universidad Autónoma de Madrid	1997
Licensed in Biololgical Sciences	Universidad Autónoma de Madrid	1992

Part B. CV SUMMARY

General quality indicators of scientific production

-**Five sexenios** (1993-1998; 1999-2004; 2005-2010; 2011-2017 and last corresponding to 2017-2022)

-***Overall career contributions***- Total of **67 scientific publications** indexed in WoS. Publication of **34 research articles** and **16 reviews** in JCR international journals. **Corresponding author or first author in circa 70%** of these papers. Most of published contributions within the first quartile (**73% of Q1 papers**). 8 chapters of books and **10 communications** to congresses **in JCR supplements**. Citations/year per article: 40.1. Total citations of her publications in last five years circa 172/year. Global average impact index: 6.2054. **Last 5-year impact index: 8.3451**. **Hirsch h index of 28**

-Communications to 56 international and national congresses, as invited speaker: IdiPAZ Scientific Seminars (2017), XV SEBC Congress (2013), 1st Conference on Cellular Signaling and New Kinases (2012), IIS-Princesa Seminars (2022), poster presentations: **FASEB** (2022), **52nd Annual Scientific Meeting of the European Society for Clinical Investigation** (2018); Gordon Conference (2023).

-***Mentoring***: Directly **supervised 11 PhD Thesis**, with 1 more currently in progress. Supervision of **5 TFM** (Master's Final Dissertation) (2009, 2012, 2019, 2024, 2025) and of **11 TFG** (Final Degree Project) (2013, 2014, 2016-2018, 2021- 2025). **Awarded** in 2018 with the **1st Premium** for **mentoring original research** project in Biological and Biomedical Sciences in the "XVII Certamen Universitario Arquímides" organized by Ministry of Education.

-***Scientific trajectory:***

I began my scientific career in 1992 as a pre-doctoral fellow in the FPI program (Comunidad de Madrid, CAM). I earned my Ph.D. in Biological Sciences (Biochemistry) from the Universidad Autónoma de Madrid (UAM) in 1997. Afterward, I undertook postdoctoral research at UAM's Department of Molecular Biology, focusing on GRK2 and β-arrestin regulation (1998–2000), supported by funded projects and a CAM postdoctoral fellowship (2000–2002). I then joined the IBMEV institution (Madrid) for 2 years with a CSIC I3P postdoctoral contract of the CSIC, pushing forward research on adrenergic receptors and cardiovascular diseases. In 2005, I returned to UAM as a Ramón y Cajal (RyC) researcher with competitive funding as principal investigator, obtaining the I3 recognition in 2009 (Ministry of Education and Science). In 2017, I was consolidated as Associate Professor at the Department of Molecular Biology (UAM). Since 2014, I lead Group 13 (Animal Models Line of Inflammatory Diseases and Tissue Remodeling) at the Research Institute H.U. La Princesa, and since 2016 I head the ONCO-resecel research line at the Molecular Biology Centre Severo Ochoa (CBMSO). Our team was recognized as an official UAM research group in 2018. My research centers on signal transduction involving kinases and membrane receptors, with emphasis on the role of GRK2 and the transducing role of serine-threonine kinase GRK2 and to post-translational modifications post-translational modifications in regulating cellular processes such as proliferation, migration, angiogenesis, and genomic stability.

-***Assessment and advisory tasks***: **evaluator of national research projects** (ANEP since 2012) and European Research Council (2016), ad hoc **reviewer for scientific journals** (Mol. Biol. Cell, J. Biol. Chem, Mol. Oncol, etc.), Advisory reviewer for research agencies in Argentina.

-**Editor** of **Cancers** (since 2020)

-mentoring and **teaching activities**, directly supervising Thesis and courses: Experimental Biochemistry (Grade Biochemistry, 2nd year), Cell organization and Control (Grade Biochemistry, 3rd year). Also, **UAM exchange Erasmus Coordinator** since 2018.

- Member of **Scientific committee** of the Health Research Institute-La Princesa (from 2023).

Part C. RELEVANT MERITS

C.1. Publications (•, related to breast cancer and cervical cancer cells; *, corresponding author)

• Rivas V, González-Muñoz T, Albitre Á, Lafarga V, Delgado-Arévalo C, Mayor F Jr, **Penela P***. (7/7) GRK2-mediated AKT activation controls cell cycle progression and G2 checkpoint in a p53-dependent manner. *Cell Death Dis*. 2024 Aug 29;10(1):385. IF. 7.000

-Díez-Alonso L, Falgas A, Arroyo-Ródenas J, …. Albitre Á, **Penela P**… Álvarez-Vallina L (22/35) Engineered T cells secreting anti-BCMA T cell engagers control multiple myeloma and promote immune memory in vivo. *Sci Transl Med.* 2024 Feb 14;16(734):eadg7962. IF 14.6

-Jiménez-Reinoso A, Tirado N, Martinez-Moreno A,…, Albitre Á, **Penela P**, … Sánchez Martínez D (9/14). J Efficient preclinical treatment of cortical T cell acute lymphoblastic leukemia with T lymphocytes secreting anti-CD1a T cell engagers. *Immunother Cancer*. 2022 Dec;10(12):e005333. IF 10.6

• Neves M, Marolda V, Mayor F Jr, **Penela P*** (4/4). Crosstalk between CXCR4/ACKR3 and EGFR Signaling in Breast Cancer Cells. *Int J Mol Sci*. 2022, 23(19):11887. IF.6.288

•Reglero C, Ortiz Del Castillo B, Rivas V, Mayor F Jr, **Penela P*** (5/5). Mdm2-Mediated Downmodulation of GRK2 Restricts Centrosome Separation for Proper Chromosome Congression. *Cells*. 2021, 10(4):729. IF. 7.666

- Smit MJ, Schlecht-Louf G, Neves M, van den Bor J, Penela P… Mayor F (5/8) The CXCL12/CXCR4/ACKR3 Axis in the Tumor Microenvironment: Signaling, Crosstalk, and Therapeutic Targeting. *Annu Rev Pharmacol Toxicol*. 2021 Jan 6;61:541-563. IF 16,459

- Reglero C, Lafarga V, Rivas V, Albitre A, …, **Penela P***(10/10). GRK2-Dependent HuR Phosphorylation Regulates HIF1α Activation Under Hypoxia or Adrenergic Stress. *Cancers*. 2020, 12(5):E1216. IF 6.575

- Neves M, Perpiñá-Viciano C, **Penela P,** Hoffmann C, Mayor F Jr (3/5). Modulation of CXCR4-Mediated Gi1 Activation by EGF Receptor and GRK2. *ACS Pharmacol Transl Sci*. 2020 Apr 27;3(4):627-634. IF 5.1

- Penela P, Ribas C, Sánchez-Madrid F, Mayor F Jr (1/4). G protein-coupled receptor kinase-2 (GRK2) as a multifunctional signaling hub. *Cell Mol Life Sci*. 2019, 76(22):4423-4446. IF 9.334

- Aluja D, Inserte J, **Penela P**,…Jr, Garcia-Dorado D (3/8). Calpains mediate isoproterenol-induced hypertrophy through modulation of GRK2. *Basic Res Cardiol.* 2019 Mar 26;114(3):21. IF 11.981

- Penela P, Inserte J, Ramos P, Rodriguez-Sinovas A, Garcia-Dorado D, Mayor F Jr (1/6). Degradation of GRK2 and AKT is an early and detrimental event in myocardial ischemia/reperfusion. *EBioMedicine*. 2019, 48:605-618. IF 11.205

- Nogues, L; Palacios-García, J; Reglero, C; Rivas… **Penela P**, Mayor F (7/8). G protein-coupled receptor kinases (GRKs) in tumorigenesis and cancer progression: GPCR regulators and signaling hubs. *Semin Cancer Biol*. 2018, S1044-579X(17)30109-8. IF 9.955

- Nogués L, Reglero C, Rivas V, Neves M, **Penela P***, Mayor F* (5/6) G-Protein-Coupled Receptor Kinase 2 as a Potential Modulator of the Hallmarks of Cancer. *Mol Pharmacol*. 2017 Mar;91(3):220-228. IF 3.987

- Nogues L, Reglero C; Rivas V; Salcedo A..; **Penela P*** (15/15). G Protein-coupled Receptor Kinase 2 (GRK2) Promotes Breast Tumorigenesis Through a HDAC6-Pin1 Axis. *EBioMedicine*. 2016, vol.: 13 pg: 132 -145. IF 11.205

- Rivas V, Nogués L, Reglero C, Mayor F Jr, **Penela P** *(5/5) Role of G protein-coupled receptor kinase 2 in tumoral angiogenesis. *Mol Cell Oncol.* 2014 Nov 11;1(4):e969166.**.** IF 4.8

- Rivas V; Carmona R; Muñoz-Chápuli R; Mendiola M… **Penela P*** (12/12) Developmental and tumoral vascularization is regulated by G protein-coupled receptor kinase 2. *J Clin Invest.* 2013, 123 (11) pg: 4714-4730. IF 19.477.

- Lafarga V; Aymerich I; Tapia O; Mayor F; **Penela P*** (5/5). A novel GRK2/HDAC6 interaction modulates cell spreading and motility *EMBO J.* 2012, 31:856-869. IF 13.783.

- **Penela P***; Rivas V; Salcedo A; Mayor F (1/4). G protein-coupled receptor kinase 2 (GRK2) modulation and cell cycle progression. *Proc Natl Acad Sci U S A.* 2010, 107(3): 1118-1123. IF: 12.779.

- **Penela P***, Ribas C, Aymerich I ….. Mayor F Jr (1/9). G protein-coupled receptor kinase 2 positively regulates epithelial cell migration. *EMBO J*. 2008 Apr 23;27(8):1206-18. 55. IF 10.596

- Salcedo A, Mayor F Jr, **Penela P** * (1/3). Mdm2 is involved in the ubiquitination and degradation of G-protein-coupled receptor kinase 2. *EMBO J*. 2006 Oct 18;25(20):4752-62. IF 10.596

C.2. Research projects

24 research projects either as collaborator or as principal researcher. As **principal investigator (PI)**, **9 funded projects supported by public and private Spanish institutions** (FIS-ISCIII, CAM-UAM, Fundación Ramón Areces, Fundación Eugenio Rodríguez Pascual) **and co-led a private project** (MM Medical Research Foundation). **Senior collaborator** in **regional networks** (INTEGRAMUNE, INDISNET,INSINET, PRICIT (S-SAL-0159-2006)), **national networks** (RECAVA, RD06 / 0014/0031), and **BIOIMID excellence project** (2014-17) (Health Research Institute-La Princesa). Selected:

1- PI24/02055: Exploring the Role of Adrenergic Stress and GRK2 in Promoting Chromosomal Instability and Aneuploidy as Causes of Breast Cancer Resistance". Funding body: Carlos III Institute of Health. Duration from: 2025 to: 2027 Funding: 171.250 €. Role: PI, P. Penela

2-CIVP20A6618: Exploring post-translational regulation of angiogenic and inflammatory-related processes during colorectal cancer progression and differential recurrence" Funding body: Fundación Ramón Areces. Duration: 12-06-2021/12-06-2024. Role: PI, P. Penela Funding: 112.000 €

3- PI21/01834: Exploring the role of GRK2 in BRCA1 dysfuntion and mechanisms of PARP-inhibitor resistance in breast tumor models beyond BRCA status" Funding body: Instituto de Salud Carlos III. Fondo de Investigaciones Sanitarias Duration: 1-01-2022/31-12-2024 Role: PI, P. Penela. Funding: 123.420 €

4-INTEGRAMUNE-CM / P2022/BMD-7209. Integrated cellular and molecular systems in immune-inflammatory pathophysiology. Funding body: COM. MADRID–Programa de Actividades I+D en BIOMEDICINA/ Coordinator: F. Mayor, UAM. Duration: 01-01-2023/31-12-2026 Funding: 812,000 € to 4 research groups. P. Penela, Role: Senior Research

5-COVTRAVI-19-CM: Platforms and preclinical models for a multidisciplinary approach in COVID-19 and in response to future pandemics. Funding body: COM. MADRID– Proyectos de I+D REACT-UE Investigación Madrid/ Coordinator: M. Fresno, UAM. Duration: 01-01-2022/31-12-2022. Funding 800,000€ to Consortium. Role: PI, P. Penela (51,000 €)

6-ONCOgenic Receptor Network of Excellence and Training 2.0" (Oncornet2.0). Innovative Training Networks (ITN) Call: H2020-MSCA-ITN-2019. Funding body: MARIE SKŁODOWSKA-CURIE ACTIONS (ERC). Coordinator: Martine Smit, Amsterdam Participants: 10 groups. Duration: 2021-2024. Funding: 250,904€. P. Penela, Role: Senior Research, Co-supervisor (ERS13, UAM hub).

7-INFLAMUNE-B2017/BMD-3671/ New molecular and cellular mechanisms in immune physiopathology and inflammatory diseases/ COM. MADRID–Programa de Actividades I+D en BIOMEDICINA/ Coordinator: M Fresno, UAM / Duration: 01/01/2018 to 31/12/2021 / Funding: 744,000 € for 4 research groups / Role: Network group senior collaborator P.Penela.

8-Group CB16/11/00278 / CIBER-CARDIOVASCULAR (national excellence network of 40 selected groups)/ Instituto de Salud Carlos III/ PI: F Fernández-Avilés, Coordinator / Duration: from 01/01/2017-/Funding circa 40,000 € per year/ Role: group senior collaborator P.Penela.

9- PI17/00576: Consequences of MDM2/HDAC6/GRK2 node in cell division, DNA repair and tumor heterogeneity: therapeutic potential of rebalancing quiescence/senescence in breast. Funding body: Carlos III Health Institute (ISCIII). Duration: 1-1-2018/31-12-2020. Role: PI, P. Penela. Funding: € 99,200.00

10- PI14/00435: Interrelation of GRK2 with Mdm2 and ATM in genomic instability due to metabolic stress and in cellular invasiveness and angiogenesis: therapeutic opportunities in breast tumors. Funding body: Carlos III Health Institute (ISCIII). Duration: 01-01-2015/01-01-2017. Role: PI, P. Penela. Funding: € 166,980.00

11- PI11/00859: Repercussions of the regulation of Mdm2 and p53 by the GRK2 kinase in breast cancer: genomic stability and chemoresistance. Funding body: Carlos III Health Institute (ISCIII). Duration: 01-01-2011/01-01-2014. Role: PI, P. Penela Funding: € 131,531.00.

C.3. Contracts, technological or transfer merits

1. Contract: Study of the involvement of beta-arrestins and Gq proteins as potential targets and pharmacodynamic markers of Aplidin. Commissioned by PHARMA MAR. Duration: 1-1-2012/31-12-2012. Budget: € 73,700.00. **Responsible Researcher**: **Petronila Penela,** Federico Mayor

2. Contract: Systems-Biology mechanistic evaluation of the role of GRK2 in Colorectal Cancer relapse according to disease stages and GRK2 gene expression levels. Collaboration ANAXOMICS Biotech (Spain). Duration, from: 1-1-2018 to: 31-12-2018. **Responsible Researcher: Petronila Penela**

3. Contract: Study of the effects of selected Interax ACKR3 compounds on breast cancer in vitro and in vivo experimental models. Collaboration with InterAx Biotech AG. Duration, from: 1-1-2021 to: ongoing. **Responsible Researchers: Petronila Penela**, Federico Mayor

-PCT/ES2008/070231: "Use of siRNA for inhibition of GRK2 kinase expression as antitumor therapy". Fundación General de la Universidad Autonoma de Madrid. Priority: PCT, Spain. Inventors: Federico Mayor (35%); **Petronila Penela (35%**); Alicia Salcedo (20%); Ana Ruiz Gomez (5%), Helena Holguin (5%). Application Date: 2008-12-12

MINISTERIO
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AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE ABREVIADO (CVA)

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

Part A. PERSONAL INFORMATION

First name	Victoriano		
Family name	Baladrón García		
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]		
e-mail	Victoriano.Baladron@uclm.es	**URL Webs**	
Open Researcher and Contributor ID (ORCID) (*): 0000-0003-4574-8760		Facultad de Medicina de Albacete; Instituto de Biomedicina de la UCLM	

(*) Mandatory

A.1. Current position

Position	Associated Professor (TU)		
Initial date	27/04/2010		
Institution	University of Castilla-La Mancha/CSIC		
Department/Center	Inorganic and Organic Chemistry and Biochemistry	Albacete Medical School/IB-UCLM/Biomedicine Unit	
Country	SPAIN	[redacted]	[redacted]
Key words	Cell Differentiation, Cell Proliferation and Activation, Adipogenesis, Osteogenesis, Cancer, NOTCH Receptors, DLK proteins		
Research periods (Sexenios)	4 (I will request the 5th in December 2025)		
Five-year teaching period (Quinquenios)	6 (I will request the 7th in 2026)		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
01/01/1992-12/31/1995	Predoctoral Fellow (FPU Fellowship)/USAL-CSIC/Spain
12/01/1997-11/30/1999	Postdoctoral Fellow (Doctoral and Technologist Overseas Scholarship/NIH/FDA/USA)
12/01/1999-09/30/2000	Postdoctoral Fellow (Orise Fellowship)/FDA/USA
10/05/2000-01/19/2005	Full-time Assistant Professor/UCLM/Spain.
01/20/05-04/26/2010	Full-time Assistant Professor (PCD)/UCLM/Spain.

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed in Biological Sciences	University of Salamanca/Spain	1990
PhD in Biological Sciences	University of Salamanca/Spain	1997

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

After graduating in Biological Sciences from the University of Salamanca, Spain, in 1990, I began my predoctoral stage in 1991 in the Department of Microbiology and Genetics/Institute of Microbiology-Biochemistry, University of Salamanca/CSIC. My doctoral thesis, defended in April 1997, involved the isolation and cloning of two genes encoding beta-glucanases from the yeast *S. cerevisiae*. I also actively participated in a European project for the sequencing of chromosomes XI and XIV of this yeast, work that was published in Nature.

In 1997, I started my postdoctoral stage at CBER (FDA, NIH campus, USA). Here, I began researching the field of molecular and cellular biology of the mouse, applying my knowledge of yeast molecular biology to study for the first time the interaction of the mouse DLK1 protein with the NOTCH1 receptor as an inhibitory ligand. I also collaborated with a research group from Georgetown University (Washington DC, USA) to isolate and characterize the PEDF factor receptor using molecular techniques in yeast.
Since October 2000, I have been working at the Albacete Medical School/IB-UCLM/Biomedicine Unit, UCLM/CSIC. Upon my arrival, I participated in setting up the Biochemistry and Molecular Biology laboratory at the Faculty of Medicine of Albacete, as well as in acquiring equipment for research and teaching laboratories.
In my research work, I have mainly continued studying the function and mechanism of action of NOTCH receptors and DLK proteins in adipogenesis, osteogenesis, cell proliferation and activation, and cancer. One of the most significant discoveries was the observation that DLK1, which had always been considered an inhibitor of adipogenesis, could enhance or inhibit adipogenesis depending on the cellular context. Additionally, during the early years of work at UCLM, we discovered the *Dlk2* gene as a homologous gene to *Dlk1* and studied its biological functions in adipogenesis, osteogenesis, and in triple-negative breast cancer and metastatic melanoma. These DLK proteins differently modulate white and brown adipogenesis, which could be very important in the fight against obesity and associated diseases, such as type 2 diabetes. DLK proteins also modulate NOTCH signaling in cancer cells, promoting or blocking tumor progression in nude mice. I have participated in several regional, national, and European projects as a fellow, collaborator, or principal investigator. I have published 36 articles in international journals and a book chapter in Methods in Molecular Biology (Springer Nature), and the results have been presented at various national and international conferences.
Currently, I teach Biochemistry and Molecular Biology in the first cycle of the Medicine and Pharmacy degrees. I have also taught Biochemistry and Molecular Biology in the Biotechnology degree for three courses. I have also participated in teaching and training various courses for secondary school teachers, technicians, and undergraduate students, in outreach activities, and in doctoral and master's programs.
I am currently the coordinator and professor of one of the courses of the official UCLM master's degree "Experimental Biomedicine" since 2010. I was also the coordinator of the first year of the Medicine degree from 2015 to 2020, and I am the current coordinator of the "TFG" works of the Faculty of Medicine of Albacete from the 2021-2022 academic year to the present. I have supervised 3 Doctoral Theses, 3 DEAs, 5 TFMs, and 12 TFGs. Finally, I am also actively participating in various academic, teaching, and research committees, as well as being part of faculty evaluation committees.

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

C.1. Publications

1. José Luis Resuela González, María-Julia González-Gómez, María-Milagros Rodríguez-Cano, Susana López López, Eva-María Monsalve, María-José M. Díaz-Guerra, Jorge Laborda, María-Luisa Nueda (CA) and Victoriano Baladrón (CA). 2025. NOTCH1, 2, and 3 receptors enhance osteoblastogenesis of mesenchymal C3H10T1/2 cells and inhibit this process in preosteoblastic MC3T3-E1 cells. Differentiation, 142:100837. DOI: 10.1016/j.diff.2025.100837.

2. María-Milagros Rodríguez-Cano, María-Julia González-Gómez, Eva-María Monsalve, María-José M. Díaz-Guerra, Moustapha Kassem, Jorge Laborda, María-Luisa Nueda (CA) and Victoriano Baladrón (CA). 2024. DLK1 and DLK2, two non-canonical ligands of NOTCH receptors, differentially modulate the osteogenic differentiation of mesenchymal C3H10T1/2 cells. Biological Research, 57:77. DOI: https://doi.org/10.1186/s40659-024-00561-7.

3. Ana-Isabel Naranjo, María-Julia González-Gómez, Victoriano Baladrón, Jorge Laborda (CA) and María-Luisa Nueda (CA). 2022. Different Expression Levels of DLK2 Inhibit NOTCH Signaling and Inversely Modulate MDA-MB-231 Breast Cancer Tumor Growth In Vivo. Int. J. Mol. Sci. 2022, 23(3), 1554. DOI: 10.3390/ijms23031554.

4. María-Luisa Nueda (CA) and Victoriano Baladrón (CA). 2022. Mammalian NOTCH Receptor Activation and Signaling Protocols. Part of the Methods in Molecular Biology book series (MIMB, volume 2472). NOTCH Signaling Research. Methods and Protocols, pp 67–82. Springer Nature. ISBN: 978-1-0716-2201-8. DOI: https://doi.org/10.1007/978-1-0716-2201-8_7.

5. Nueda M.L, González-Gómez M.J, Rodríguez-Cano M.M, Monsalve E.M, Díaz-Guerra M.J.M., Sánchez-Solana B., Laborda J., Baladrón V (CA). 2018. DLK proteins modulate NOTCH signaling to influence a brown or white 3T3-L1 adipocyte fate. Sci Rep. 8:16923. DOI: 10.1038/s41598-018-35252-3.

6. Nueda M.L (CA), Naranjo A.I, Baladrón V., Laborda J (CA). 2017. Different expression levels of DLK1 inversely modulate the oncogenic potential of human MDA-MB-231 breast cancer cells through inhibition of NOTCH1 signaling. FASEB J., 31: 3484-3496. DOI: 10.1096/fj.201601341RRR.

7. M. L. Nueda (CA); A.I. Naranjo; V. Baladrón; J. Laborda. 2014 (CA). The proteins DLK1 and DLK2 modulate NOTCH1-dependent proliferation and oncogenic potential of human SK-MEL-2 melanoma cells. BBA. Molecular Cell Research, 1843: 2674-2784. DOI: https://doi.org/10.1016/j.bbamcr.2014.07.015.

8. B. Sánchez-Solana; M. L. Nueda; M. D. Ruvira; et al.; V. Baladrón (CA); J. Laborda (CA). 2011. The EGF-Like Proteins DLK1 and DLK2 Function as Inhibitory Non-Canonical Ligands of the NOTCH1 Receptor that Reciprocally Modulate each other's Activities. BBA, Molecular Cell Research, 1813: 1153-1164. DOI:10.1016/j.bbamcr.2011.03.004.

9. Baladrón V.; Ruiz-Hidalgo, M. J.; Nueda, M. L.; Martínez Díaz-Guerra, M. J; García-Ramírez, J. J.; Laborda J. 2005. Dlk1 acts as a negative regulator of NOTCH1 activation through interactions with specific EGF-Like repeats. Experimental Cell Research. 303, Pp. 343 - 359. DOI: 10.1016/j.yexcr.2004.10.001.

C.2. Congress

1. Different expression levels of DLK2, a non-canonical NOTCH ligand, inhibit NOTCH1 activation and inversely modulate in vivo MDA-MB-231 breast cancer tumor growth. Naranjo, A.I, González-Gómez, M.J, Baladrón, V, Laborda, J and Nueda, M.L. CELL BIO virtual 2021, (ASCB)/EMBO meeting. USA, December 1-10, 2021. E-poster orally exposed.

2. The role of NOTCH receptors in the osteoblastogenic differentiation of mesenchymal C3H10T1/2 cell line. J. Resuela-González, M. Rodríguez-Cano, M. González-Gómez, V. Baladrón, M. Nueda. XIX SEBC meeting. Boadilla del Monte, September 26-29, 2021. e-poster orally exposed. Recently, accepted for publication in 2025 in Differentiation journal.

3. The role of DLK proteins in the osteogenic differentiation of mesenchymal C3H10T1/2 cell line. Rodríguez-Cano MM, González-Gómez MJ, Resuela-González JL, Baladrón V, Nueda ML y Laborda J. An online ASCB/EMBO meeting. December 1-10, 2021. e-poster orally exposed.

4. The osteogenic differentiation of C3H10T1/2 mesenchymal cells is modulated by DLK proteins. Rodríguez-Cano MM, González-Gómez MJ, Resuela-González JL, Baladrón V, Nueda ML y Laborda J. XIX SEBC Meeting. Boadilla del Monte, Spain, September 26-29, 2021. E-poster orally exposed.

5. Role of DLK proteins and NOTCH receptors in adipogenesis of preadipocytic 3T3-L1 preadipocytes and mesenchymal C3H10T1/2 cells. V. Baladron. International Scientific Congress of Pharmacy and Biochemistry "Segundo Manuel Miranda Leyva", in The Frame of the Bicentenary of the Independence of Peru. National University of Trujillo, Peru. July 28, 2021. Invited Lecturer. Oral Presentation.

6. Role of DLK1 in the commitment towards the osteoblastic differentiation of C3H10T1/2 multipotent mesenchymal cells and MC3T3-E1 pre-osteoblastic cells. M.M. Rodríguez-Cano, M.J. González-Gómez, J. Laborda, V. Baladrón, M.L. Nueda. IV Meeting of Young Therapeutic Chemists and Biochemists. Santiago de Compostela, Spain, October 23-25, 2019. Poster.
7. The role of NOTCH receptors and DLK proteins in the adipogenic phenotype of C3H10T1/2 multipotent mesenchymal cells. M.M. Rodríguez Cano, V. Baladrón, B. Sánchez-Solana, J. Laborda, M.L. Nueda. XXXXI SEBBM Meeting. Santander, Spain, September 10-13, 2018. Poster.
8. Role of the NOTCH receptors and their non-canonical ligands DLK1 and DLK2 in 3T3-L1 adipogenesis and adipocyte browning. M.L. Nueda, M.J. González-Gómez, B. Sánchez-Solana, E.M. Monsalve, M.J. M. Díaz-Guerra, J. Laborda, V. Baladrón. XL SEBBM Meeting The Annual Meeting of the SFBBM. FEBS3+ 1st Joint Meeting of the French Portuguese-Spanish Biochemical and Molecular Biology Societies. Barcelona, Spain, October 23-26, 2017. Poster.
9. Different expression levels of DLK1 inversely modulate proliferation and oncogenic potential of human MDA-MB-231 breast cancer cells through inhibition of NOTCH signaling. M.J. González-Gómez, A.I. Naranjo, V. Baladrón, J. Laborda and M.L. Nueda. XXXIX SEBBM Meeting. Salamanca, Spain, September 5-8, 2016. Poster.

C.3. Research projects.

1. Reference: Sbply/17/180501/000316. Title: “The Proteins NOTCH, DLK1 and DLK2 in Adipogenesis and Osteogenesis: Function and Mechanism of Action. PI1: Jorge Laborda Fernández. PI2: María Luisa-Nueda Sanz. Funding entity: Ministry of Education and Science, JCCM, Spain. Period: 2018-2021. Amount: €140,000. Participation as a researcher.
2. Reference: PEII11-0062-2456. Title: "Study of the molecular mechanisms that control cell growth and differentiation by Dlk1 and Dlk2 genes". PI: Jorge Laborda Fernández. Funding entity: Ministry of Education and Science, JCCM, Spain. Period: 01/10/2014-30/09/2017. Amount: €201,000. Participation as a researcher.
3. Reference: BFU2010-16433. Title: “Study of the Molecular Mechanisms by which the EGF-Like Genes Dlk1 and Dlk2 Participate in the Control of Cell Growth and Differentiation”. PI: Jorge Laborda Fernández. Funding entity: Ministry of Education and Science, Spain. Period: 01/01/2011-01/12/2013. Amount: €136,652. Participation as a researcher.
4. Reference: PII1I09-0164-00. Title: "Study of the Interactions of EGF-like Proteins DLK1 and DLK2 with NOTCH/Ligand System Proteins and their Role in Adipogenesis". PI: Victoriano Baladrón García. Funding entity: Ministry of Education and Science, JCCM, Spain. Period: 01/04/2009-31/12/2012. Amount: €92,312.
5. Reference: PI-2008/20. Title: "Study of the Mechanism of Action of Dlk1 and Dlk2 on NOTCH Receptor Activation and its Effects on Tumor Growth and Migration". PI: María Luisa Nueda Sanz. Funding entity: FISCAM, Spain. Period: 01/01/2009-31/12/2011. Amount: €26,061. Participation as a researcher.
6. Reference: San06-014. Title: Study of the mechanism of action of DLK1 and DLK2 proteins and their Function in Adipogenesis. PI: Victoriano Baladrón García. Funding entity: Ministry of Health, JCCM, Spain. Period: 28/09/2006-31/12/2008. Amount: €68,655.
7. Reference: BFU2007-61094/BMC. Title: “Study of the function of EGF-like homeotic Dlk genes in cell differentiation and growth”. PI: J. Laborda. Funding entity: Ministry of Education and Science, Spain. Amount: €217,800. Period: 12/2007-11/2010. Participation as a researcher.
8. Reference: CSAN020008. Title: “Study of the molecular interactions that determine the function of the EGF-like homeotic protein, Dlk, in cell differentiation, cell proliferation and cancer”. PI: J. Laborda. Funding entity: Ministry of Education and Science, JCCM, Spain. Amount: €57,188. Period: 01/2002-11/2005. Participation as a researcher.

Fecha del CVA	Sept. 2025

Parte A. DATOS PERSONALES

Nombre y apellidos	Javier Turnay Abad		
[redacted]	[redacted]	[redacted]	[redacted]
Núm. identificación del investigador		Researcher ID	K-4551-2014
		Código Orcid	0000-0002-6135-2179

A.1. Situación profesional actual

Organismo	Universidad Complutense de Madrid		
Dpto./Centro	Bioquímica y Biología Molecular I		
Dirección	Facultad de CC. Químicas		
[redacted]	[redacted]	correo electrónico	turnay@ucm.es
Categoría profesional	Catedrático de Universidad	Fecha inicio	8-02-2017
Espec. cód. UNESCO	230221, 230227		
Palabras clave	Adenocarcinoma de colon; Alergia alimentaria; Anexinas; Biomateriales; Butirato; Caracterización estructural y funcional de proteínas; Diferenciación celular; Matriz extracelular		

A.2. Formación académica *(título, institución, fecha)*

Licenciatura/Grado/Doctorado	Universidad	Año
Lic. Ciencias Químicas (Especialidad Bioquímica)	Universidad Complutense de Madrid	1984
Doctorado en CC. Químicas (Especialidad Bioquímica)	Universidad Complutense de Madrid	1989

A.3. Indicadores generales de calidad de la producción científica *(véanse instrucciones)*

Sexenios de Investigación: 6 concedidos (último 2024)
Tesis doctorales dirigidas: 4 (2 con Mención Europea); 2 en curso
Citas Totales (Google Scholar): 5371 (a fecha 9-09-2025)
Promedio de citas/año (2018-2024): 264
Publicaciones totales en el primer cuartil: 42 (de ellas 12 en el primer decil)
Índice h: 35 (Google Scholar); Índice i10: 59 (Google Scholar)

Parte B. RESUMEN LIBRE DEL CURRÍCULUM

JAVIER TURNAY ABAD obtuvo el Grado de Licenciado en CC. Químicas, Especialidad Bioquímica, en junio de 1984 por la Universidad Complutense de Madrid. Tras ello, obtuvo una Beca FPI para la realización de su Tesis Doctoral en el Dpto. de Bioquímica y Biología Molecular I de la UCM, defendiéndola en septiembre de 1989. En octubre de 1988 pasó a formar parte de la plantilla docente de la UCM disfrutando primero de un contrato de Ayudante de Facultad a Tiempo Completo, seguido de varios contratos como Profesor Asociado. En febrero de 2002 obtuvo una plaza de Profesor Titular de Universidad en el área de Bioquímica y Biología Molecular y, en febrero de 2017, la de Catedrático de Universidad, ambas por concurso público. La actividad docente la ha realizado principalmente en Dpto. de Bioquímica y Biología Molecular I de la UCM, habiendo sido profesor responsable de prácticas de laboratorio, de seminarios teóricos y siendo en la actualidad responsable de impartir y coordinar varias asignaturas teóricas y prácticas impartidas por el departamento. Además, ha sido director de varias Tesinas de Licenciatura, Trabajos Fin de Grado y Trabajos Fin de Máster, ha sido codirector de tres Tesis doctorales y es director de tres Tesis doctorales en curso.

La actividad docente la ha simultaneado con una actividad investigadora, ininterrumpida desde 1985, financiada por distintos proyectos de investigación. Ésta la ha complementado con estancias postdoctorales en el Instituto Max-Planck de Erlangen (Alemania) donde disfrutó de un contrato de investigador del Instituto Max-Planck (1991-1992) y, posteriormente, de un Proyecto de la Unión Europea del cual fue IP (18 meses, 1992-1994). Más recientemente, ha sido IP de dos proyectos Santander-UCM (2017-2020) y es uno de los investigadores principales de un Proyecto del MICINN junto a la Dra. Mayte Villalba.

La investigación realizada ha sido variada pero mayoritariamente relacionada con cáncer colorrectal. Los primeros años de investigación se centraron en el establecimiento de líneas

celulares derivadas de este tipo de tumores para analizar la influencia de las proteínas de la matriz extracelular y su degradación en el comportamiento de estas células. Posteriormente, los estudios derivaron hacia el análisis de los mecanismos moleculares de los procesos de diferenciación y apoptosis inducidos por distintos agentes como el butirato, el principal nutriente y regulador de la homeostasis de las células epiteliales del colon, estudiando las alteraciones en distintas rutas de señalización celular o modificaciones de la transcripción de determinados genes sensibles a este agente. También se consiguió el establecimiento de líneas celulares resistentes a la apoptosis inducida por butirato y, en la actualidad, se están analizando las bases moleculares de dicha resistencia. De forma paralela, ha trabajado en la clonación, expresión, purificación y caracterización estructural y funcional de algunas proteínas relacionadas con el trabajo llevado cabo por el grupo de investigación. Además, durante la estancia postdoctoral en Erlangen estudió la regulación transcripcional de genes implicados en la diferenciación del cartílago, como el colágeno de tipo X y proteínas de la familia de las anexinas. En la actualidad, la investigación se está centrando en el papel del epitelio intestinal en la respuesta alérgica alimentaria. Asimismo, es experto en informática y en la gestión de bases de datos científicas, así como en técnicas espectroscópicas de caracterización de proteínas y en cultivos celulares y citometría de flujo y microscopía confocal.
La actividad investigadora ha quedado recogida en numerosas publicaciones en revistas nacionales e internacionales de prestigio, en revisiones solicitadas por los editores y en ponencias en congresos científicos, como queda reflejado en su CV.

Parte C. MÉRITOS MÁS RELEVANTES *(ordenados por tipología)*

C.1. Publicaciones (últimos 10 años).

- Parrón-Ballesteros J, Martín-Pedraza L, Gordo RG, Mayorga C, Pastor-Vargas C**,** Titaux-Delgado GA, Villalba M, Batanero E, Pantoja-Uceda D, **Turnay J** (2024) Long chain fatty acids block allergic reaction against lipid transfer protein Sola l 7 from tomato seeds. *Protein Sci* **33(9)**:e5154 (IF:4,5; Q1 en Bioquímica y Biología Molecular, 76/313). doi: 10.1002/PRO.5154
- Castromil-Benito ES, Betancor D, Parrón-Ballesteros J, Gordo RG, Bueno-Díaz C, Gutiérrez-Díaz G, **Turnay J,** De las Heras M, Cuesta-Herranz J, Villalba M, Pastor-Vargas C (2024) Walnut Jug r 1 is responsible for primary sensitization among patients suffering walnut-hazelnut 2S albumin cross-reactivity. *J Agric Food Chem* **72(32):**18162–18170 (IF:5,7; D1 en Agricultura, Multidisciplinar, 7/89). doi: 10.1021/acs.jafc.4c03603
- Coloma I, Parrón-Ballesteros J, Cortijo M, Cuerva C, **Turnay J,** Herrero S (2024) Overcoming Resistance of Caco-2 cells to 5-Fluorouracil through Diruthenium Complex Encapsulation in PMMA Nanoparticles. *Inorganic Chemistry* **63(28)**:*12870-12879* (IF:4,3; Q1 en Química, Inorgánica & Nuclear, 8/44). doi: 10.1021/acs.inorgchem.4c01323
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- Lizarbe MA, Barrasa JI, Olmo N, Gavilanes F, **Turnay J** (2013) Annexin-phospholipid interactions. Functional implications. *Int J Mol Sci* **14:**2652-2683 (IF: 2,3; Q2 en Química multidisciplinar, 52/148). doi: 10.3390/ijms1402265
- Barrasa JI, Olmo N, Lizarbe MA, **Turnay J** (2013) Bile acids in the colon, from healthy to cytotoxic molecules. *Toxicol In Vitro* **27:**964-977 (IF: 3,2; Q2 en Toxicología, 22/87). doi: 10.1016/j.tiv.2012.12.020

C.2. Proyectos (últimos 10 años)

- PID2024- 158233OB-I00. La alergia en un nuevo escenario demográfico y climático: diagnóstico molecular y nuevas estrategias. Ministerio de Ciencia, Innovación y Universidades. **coIPs:** Mayte Villalba Díaz y Javier Lacedena García-Gallo (UCM). 1/09/2025 – 31/08/2028. Cuantía subvención: 212.500€.
- PID2020-116692RB-I00. Alérgenos y eje intestino-pulmón: nuevas aproximaciones al diagnostico y tratamiento de la alergia. Ministerio de Ciencia e Innovación. **coIPs:** Dras. Mª Teresa Villalba y Eva Batanero Cremades (UCM). 1/09/2021 – 31/05/2025. Cuantía subvención: 217.800€.
- CM-REACT ANTICIPA-UCM. Anticipación y prevención de COVID-19 en la Comunidad de Madrid (ANTICIPA-CM). Expresiones de interés para la realización de proyectos de I+D en materia de respuesta a COVID-19 financiados por el FEDER – recursos REACT-UE. Cuantía de la subvención: 8,5 millones de euros. Duración: Año 2022. IP: José Manuel Bautista (UCM). El grupo UCM ESFUNPROT, al que pertenece el **Dr. Javier Turnay**, participa como grupo colaborador del subproyecto 5, con el objetivo principal de producir inmunógenos proteicos y anticuerpos, y le han correspondido 155.000,00 euros de financiación.
- RD16/0006/0014 (RETICS 2016), Red de Asma, Reacciones Adversas a Fármacos y Alergia. Instituto de Salud Carlos III. IP: Dra. Mayte Villalba. 1/01/2022—31/12/2022. Cuantía de la subvención (2017-2022): 135.000 €.
- PR75/18-21610, Tumorigenicidad y resistencia a apoptosis en células de cáncer colorrectal; respuesta a agentes quimioterapéuticos y/o radiación. Implicación de los microRNA. Banco Santander. Proyectos de Investigación Santander-Complutense. **IP: Javier Turnay**. 21/11/2018 – 27/12/2020. 9.000 €.
- PR26/16-20323. *Papel de los microRNA en la resistencia a apoptosis de células de cáncer colorrectal.* Proyectos Santander/Complutense (Conv. 2016). **IP: Dr. Javier Turnay** (UCM). 22/12/2016 – 30/04/2018. Cuantía subvención: 9.000€.

C.5. Otros Méritos

- Miembro de la Comisión Académica y Coordinador Adjunto del Programa de Doctorado de Bioquímica, Biología Molecular y Biomedicina de la Universidad Complutense de Madrid por la Facultad de Ciencias Biológicas (desde 2020).
- Coordinador de 3er curso del Grado en Bioquímica y de 3º y 4º del Doble Grado Química-Bioquímica da la Universidad Complutense de Madrid (desde 2016).
- Miembro de la Comisión de Doctorado de la Facultad de Ciencias Químicas de la UCM por el Dpto. de Bioquímica y Biología Molecular I (desde 2023).
- Evaluador Científico de Proyectos Competitivos (ANEP, FIS/ISCIII, ACSUCYL, Proyectos de Investigación Santander/UCM) y revisor de varias revistas científicas internacionales.

Tesis Doctorales dirigidas:

- Caracterización estructural y funcional de la anexina A2 humana. Disección molecular de los mecanismos de agregación de vesículas". Doctorando: Francisco José Martínez Carmona. Universidad Complutense de Madrid. Facultad de Ciencias Químicas. Fecha: 2023. Calificación: Sobresaliente "cum laude".
- Estructura del ectodominio de 4F2hc e implicación de 4F2hc en tumorigénesis. Efectos del butirato y los ácidos biliares sobre células de adenocarcinoma de colon. (Tesis con Mención

Europea). Doctorando: Angélica Santiago Gómez. Universidad Complutense de Madrid. Facultad de Ciencias Químicas. Fecha: 2012. Calificación: Sobresaliente "cum laude".

- Efecto de componentes del lumen intestinal sobre células de adenocarcinoma de colon humano. Apoptosis inducida por ácidos biliares y regulación de la transcripción génica por butirato. (Tesis con Mención Europea). Doctorando: Juan I. Barrasa López. Universidad Complutense de Madrid. Facultad de Ciencias Químicas. Fecha: 2012. Calificación: Sobresaliente "cum laude".
- Caracterización estructural y funcional de la anexina A5. Expresión de anexinas durante la proliferación y diferenciación celular. Doctorando: Ana Guzmán Aránguez. Universidad Complutense de Madrid. Facultad de Ciencias Químicas. Fecha: 2004. Calificación: Apto "cum laude" por unanimidad.

Dirección de Tesis Doctorales en curso (programa de Doctorado Bioquímica, Biología Molecular y Biomedicina):

- Jorge Parrón Ballesteros (DNI: 11.899.195F). Comenzada en septiembre de 2020 y titulada: "Papel del epitelio intestinal del paciente en la alergia alimentaria: regulación de la respuesta alérgica por factores derivados de la microbiota". Contratado predoctoral UCM-Santander. Defensa el día 3/10/2025.
- Rubén García Gordo (DNI: 50257553T). Comenzada en septiembre de 2021 y titulada: "Papel del eje intestino-pulmón en el desarrollo de respuestas alérgicas y efecto de los ácidos grasos de cadena corta. Contratado predoctoral UCM-Santander.

Trabajos de investigación dirigidos/codirigidos: Tesinas, Trabajos Fin de Grado (TFG) y Trabajos Fin de Máster (TFM)

- *"Establecimiento de un modelo celular de daño del epitelio intestinal y estudio del efecto de alérgenos alimentarios y metabolitos derivados de la flora intestinal"* TFM (Investigación en Inmunología). Nerea Sarmiento Tévar. Facultad de Medicina. UCM. 2024. Calificación: SOBRESALIENTE
- *"Citotoxicidad de complejos de dirrutenio encapsulados en nanopartículas poliméricas en células tumorales"* TFG. Michelle Azcona Leblanc. Facultad de Ciencias Químicas. UCM. 2022. Calificación: SOBRESALIENTE
- *"Papel del epitelio intestinal en la respuesta alérgica alimentaria"* TFM (Investigación en Inmunología). Rubén García Gordo. Facultad de Medicina. UCM. 2021. Calificación: SOBRESALIENTE
- *"Caracterización de la capacidad de unión y agregación de vesículas por la anexina A2 humana"* TFG. Elena García Mozo. Facultad de Ciencias Químicas. UCM. 2017. Calificación: SOBRESALIENTE
- *"Efecto del 5-fluorouracilo sobre células de adenocarcinoma sensibles y resistentes a butirato"* TFG. Rocío Bartolomé Cabrero. Facultad de Ciencias Químicas. UCM. 2017. Calificación: SOBRESALIENTE
- *"Producción y caracterización de feromonicinas frente a cáncer de colon".* TFM. Miguel Ángel Robles Ramos. Facultad de Ciencias Químicas. UCM. 2016. Calificación: SOBRESALIENTE
- *"Expresión de isoformas de la anexina A13 en células de adenocarcinoma de colon humano. Efectos del butirato sódico"* TFG. Blanca Mª Sánchez Alfayate. Facultad de Ciencias Biológicas. UCM. 2014. Calificación: SOBRESALIENTE
- *"Purificación y caracterización de la anexina A2 humana recombinante"* TFG. Juan Carlos Rodríguez López. Facultad de Ciencias Químicas. UCM. 2013. Calificación: SOBRESALIENTE
- *"Implicación de los miRNA en los efectos del butirato en células de adenocarcinoma de colon"* TFG. Jorge Calle Espinosa. Facultad de Ciencias Químicas. UCM. 2013. Calificación: MATRÍCULA DE HONOR
- *"Efecto del oxaliplatino y el irinotecan sobre células de adenocarcinoma de colon humano"* TFM. Lara Martínez Murias. Facultad de Ciencias Químicas. UCM. 2011. Calificación: SOBRESALIENTE
- *"Implicación de las proteínas quinasas activadas por mitógenos (MAPK) en la respuesta de células de adenocarcinoma de colon a componentes del lumen intestinal".* Tesina de Licenciatura. Beatriz Llorente Robledo. Facultad de Ciencias Biológicas. UCM. 2007. Calificación: MATRÍCULA DE HONOR

MINISTERIO
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CURRICULUM VITAE ABREVIADO (CVA)

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

Part A. PERSONAL INFORMATION

First name	Alicia		
Family name	González Martín		
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
e-mail	agonzalez@iib.uam.es	[redacted]	
Open Researcher and Contributor ID (ORCID)		https://orcid.org/0000-0002-6179-089X	

A.1. Current position

Position	Associate Professor (Profesor Titular)	
Initial date	03/03/2025	
Institution	Autonoma University of Madrid (UAM)	
Department/Center	Department of Biochemistry	Faculty of Medicine
Country	Spain	[redacted] [redacted]
Key words	MicroRNAs, T cell responses, B lymphocytes, autoimmune diseases, tumor immunology.	

A.2. Previous positions (research activity interuptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2023-2025	Associate Professor (Profesor Contratado Doctor, PCD-LOU) and Group Leader / Autonoma University of Madrid, Spain
2018-2023	Independent Ramón y Cajal Investigator (Group leader) / Autonoma University of Madrid / Spain
2017-2018	Staff Scientist / The Scripps Research Institute (TSRI) / La Jolla, California, United States of America
2011-2017	Research Associate and Senior Research Associate / The Scripps Research Institute (TSRI) / La Jolla, California, United States of America
2007 (2 months)	Visiting PhD Student / Institute for Molecular Genetics of Montpellier (IGMM, CNRS) / France
2004-2010	PhD Student and Postdoctoral Researcher / National Center for Biotechnology (CNB-CSIC) / Madrid, Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Molecular Biology (PhD)	Autonoma University of Madrid (UAM)	2009
Biochemistry (Degree)	Autonoma University of Madrid (UAM)	2003

Part B. CV SUMMARY

My laboratory focuses on identifying and studying the molecular mechanisms of cancer and autoimmune diseases with a central focus on immune tolerance. After initiating my research training as a university student at Center for Molecular Biology Severo Ochoa (CSIC/UAM) and Institute for Biomedical Research Alberto Sols (CSIC/UAM), I performed my PhD at the Spanish National Center for Biotechnology (CSIC), Department of Immunology and Oncology (2009). My thesis focused on tumor immunology and demonstrated a requirement for the chemokine receptor CCR5 for optimal T cell-mediated antitumor responses (Cancer Research, 2011, Oncoinmunology, 2012, Anticancer Agents Med Chem, 2012, Patent CSIC-

P201031015, 2012). During this period, I also performed a short-term stay at the Institute for Molecular Genetics of Montpellier, France.

Next, I moved to The Scripps Research Institute in California, United States of America (USA), to conduct postdoctoral research on the role of microRNAs (miRNAs) in B cell immunobiology (2011-2018). My work during that period established miRNAs as critical regulators of B cell tolerance and autoimmunity and its international impact is reflected by its publication in high-impact journals (Nature Immunol, 2016, Immunity, 2016, Nature Commun, 2016 and J Exp Med, 2016, among others), and by the multiple invitations to give seminars in prestigious institutions (Yale University, Mount Sinai Hospital and the University of Toronto, among others), and talks in plenary sessions of international conferences such as Keystone Symposia, FASEB meetings and La Jolla Immunology Conference.

I joined the Department of Biochemistry at Autonoma University of Madrid School of Medicine and Institute for Biomedical Research (IIBM) as an independent Ramón y Cajal Investigator in September 2018 and promoted to Associate Professor in September 2023 (with **2 Research "Sexenios" 2010-2015 and 2016-2021**). My laboratory continues to study the adaptive immune regulation in cancer and autoimmunity. In addition, we are developing innovative B cell engineering strategies for therapeutic purposes. Our work so far has contributed 8 publications (eLife, 2019, Nature Commun, 2020, Front Immunol, 2022 and Nature, 2025, among others) and 2 patents (one licensed to an international biotech), with additional manuscripts currently in the process of publication. Our findings are regularly presented at major conferences, such as Keystone Symposia and American Association of Immunologists (AAI) Annual Meeting, as well as invited seminars including at the University of California, Irvine and the Spanish National Center for Cardiovascular Research (CNIC). Our laboratory has received funding from national and international institutions such as the Spanish National Research Agency (AEI), Spanish Association Against Cancer (AECC), Bill and Melinda Gates Foundation (USA), FERO Foundation, and Ramón Areces Foundation. My research team is currently comprised by a postdoctoral researcher, 3 predoctoral researchers, a technician and myself. I also teach undergraduate students and have supervised 3 PhD theses (1 as sole supervisor and 2 co-supervised with S. Gascón and C. Xiao), along with 6 TFM, 4 TFG and 5 internship projects (2016-2024). Our laboratory also joined IdiPAZ (Department of Infectious Diseases and Immunity) in December 2022.

In addition, I have served as member of Plan Nacional and Human Resources Study Sections for the Spanish National Research Agency (AEI) and for grants from the FERO Foundation, as a permanent member of AECC´s evaluators panel and as expert reviewer for the AEI, Austrian Science Fund (FWF, Austria), Uruguayan Research Agency (ANII, Uruguay) and Israel Science Foundation (ISF, Israel), (2018-2024). I am also an editorial board member of Front Oncol and Front Cell Dev Biol (2021-present), and have served as *Ad hoc* reviewer for multiple scientific journals (Hum Mol Genet, Mol Ther Nucleic Acids, Theranostics and Oncogene, among others). Our laboratory frequently participates in dissemination activities in radio, press and professional social media platforms, as well as face-to-face events (see examples: https://web2020.sebbm.es/web/images/AAdocumentos/2019/octubre2019_aliciagonzalez.pdf, https://genotipia.com/genetica_medica_news/alicia-González-Martín/, https://www.eurekalert.org/news-releases/741152). We count with a wide international and national collaborative network, and are currently collaborating with Jun Lu (Yale University, USA), James Voss (The Scripps Research Institute, USA), Zhe Huang (Sanofi Institute for Biomedical Research, China) and Almudena Ramiro (CNIC, Spain), among others. My group is also part of the European B cell network (EBCnet) and Conexión Cáncer CSIC since 2022. In addition, I have received the L'Oréal-UNESCO Research Award 2018 and XXIII FERO Merit Award 2022, and my work has been highlighted multiple times by national and international media.

Part C. RELEVANT MERITS

C.1. Publications.

1. Mastrangelo A*, Robles-Vera I*, […], **González-Martín A,** Nuñez G, Bergström G, Bäckhed F, Fuster V, Ibañez B, Sancho D (27/33). Microbially produced imidazole

propionate is an early biomarker and therapeutic target for atherosclerosis. Nature, 2025 (in press). IF: 50.554

2. Ma F, Zhan Y, Bartolomé-Cabrero R, Ying W, Asano M, Huang Z, Xiao C§, **González-Martín A§** (8/8). 2022. Analysis of a miR-148a Targetome in B Cell Central Tolerance. Frontiers in Immunology. 2022, 12 May (13). IF: 7.3
3. Blanco R, Gómez de Cedrón M, Gámez-Reche L, Martín-Leal A, **González-Martín A**, Lacalle RA, Ramírez de Molina A, Mañes S (5/8). 2021. The Chemokine Receptor CCR5 Links Memory CD4 T Cell Metabolism to T Cell Antigen Receptor Nanoclustering. Frontiers in Immunology. 2021 Dec 7;12:722320. IF: 8.786
4. Papaioannou E*, González-Molina MdP*, Prieto-Muñoz AM**, Gámez-Reche L**, **González-Martín A (Corresponding author)** (5/5)**.** 2021. Regulation of Adaptive Tumor Immunity by Non-Coding RNAs. Cancers. 2021 13(22), 5651. IF: 6.575
5. Huang D, […], **González-Martín A,** Schief W, Murrell B§, Burton DR§, Nemazee D§, Voss JE§ (15/20). 2020. Vaccine elicitation of HIV broadly neutralizing antibodies from engineered B cells. Nature Communications. 2020 Nov 17;11(1):5850. IF: 14.92
6. Xiao C, Nemazee D, **González-Martín A. (Corresponding author)** (3/3). 2020. MicroRNA control of B cell tolerance, autoimmunity and cancer. Seminars in Cancer Biology. 2020 Aug;64:102-107. IF: 15.707
7. Carmona-Rodríguez L*, Martínez-Rey D*, Fernández-Aceñero MJ, **González-Martín A**, […], Mira E, Mañes S (3/11). 2020. SOD3 induces a HIF-2α-dependent program in endothelial cells that provides a selective signal for tumor infiltration by T cells. Journal for Immunotherapy of Cancer. 2020 Jun;8(1):e000432. IF: 13.751
8. Voss J*§, **González-Martín A*§**, Andrabi R*, […], Burton D§. **(§ Co-corresponding author)** (1/19). 2018. Reprogramming the antigen specificity of B cells using genome-editing technologies. eLife. 2019 Jan 17;8. pii: e42995. IF: 7.08
9. **González-Martín A**, Adams BD, Lai M, Shepherd J, Salvador-Bernaldez M, Salvador JM, Lu J, Nemazee D§, Xiao C§ (1/9). 2016. The microRNA miR-148a functions as a critical regulator of B cell tolerance and autoimmunity. Nature Immunology. 2016 Apr;17(4):433-40. Comment in News and Views, Nature Immunology. 2016 Apr;17(4):353-4). Article recommended as of special relevance by Faculty of 1000 (F1000Prime). IF: 23.53
10. Lai M*, **González-Martín A***, Cooper AB*, […], Nemazee D§, Xiao C§. **(* Contributed equally)** (1/10). 2016. Regulation of B cell development and tolerance by different members of the miR-17-92 family microRNAs. Nat Commun. 2016 Aug 2;7:12207. Article recommended as of special relevance by Faculty of 1000 (F1000Prime). IF: 12.124
11. Ichiyama K, **González-Martín A,** […], Xiao C§, Dong C§ (2/11). 2016. The microRNA-183-96-182 cluster promotes T helper 17 cell pathogenicity by negatively regulating transcription factor Foxo1 expression. Immunity. 2016 Jun 21;44(6):1284-98. IF: 21.522
12. Liu WH*, Kang SG*, […], Xiao C (**González-Martín A:** 9/16). 2016. A miR-155-Peli1-c-Rel pathway controls the generation and function of T follicular helper cells. Journal of Experimental Medicine. 2016 Aug 1. pii: jem.20160204. IF: 11.743

C.2. Congress.

Selected conference presentations in plenary sessions: (1) Keystone Symposia RNA Mediated Regulation of Immunity: Mechanism, Disease and Therapeutics, Keystone, Colorado (USA), 27/01/2025 to 31/01/2025, **(2)** FASEB Conference: Molecular Mechanisms of Immune Cell Development and Function, Snowmass, Colorado (USA), 30/07/2017 to 04/08/2017, **(3)** Keystone Symposia Immune Regulation in Autoimmunity and Cancer, Whistler, British Columbia (Canada), 26/03/2017 to 30/03/2017, **(4)** La Jolla Immunology Conference, La Jolla (USA), 11/10/2016 to 13/10/2016.

Selected invited seminars: (1) University of California Irvine (School of Biological Sciences), Irvine (USA), 03/02/2025, **(2)** Center for Molecular Biology Severo Ochoa, Madrid (Spain), 22/10/2024, **(3)** National Center for Cardiovascular Research (CNIC), Madrid (Spain),

28/02/2019, **(4)** University of Toronto (Department of Pathobiology and Laboratory Medicine), Toronto (Canada), 12/06/2018, **(5)** Yale University (Department of Immunobiology), New Haven (USA), 19/03/2018, **(6)** University of Montreal (Institute for Research in Immunology and Oncology), Montreal (Canada), 11/01/2018, **(7)** Mount Sinai Hospital (Division of Rheumatology and Center for Autoimmunity), New York (USA), 10/10/2017

C.3. Research projects.

1. CNS2022-136069. Systematic analysis of tumor-specific B cell immunity. Ministry of Science and Innovation, Consolidator Grant 2022. Principal Investigator (PI): Alicia González Martín, UAM. 01/07/2023-30/06/2025. €199,078.
2. XXI National Call for Research Grants in Life Sciences. Use of miRNAs for cancer immunotherapy. Ramón Areces Foundation, 2022. PI: Alicia González Martín, UAM. 14/04/2023-13/04/2026. €128,000.
3. PID2021-128244OB-I00. MicroRNA regulatory networks in B cell tolerance and autoimmunity. Ministry of Science and Innovation, 2021. PI: Alicia González Martín, UAM. 01/09/2022-31/08/2025. €344,850.
4. XXIII Beca FERO. Harnessing microRNAs for lung cancer immunotherapy. FERO Foundation, 2022. PI: Alicia González Martín, UAM. 01/12/2022-30/11/2024. €80,000.
5. LAB AECC-2020. Identifying novel targets for cancer immunotherapy. Spanish Association Against Cancer (AECC), 2020. PI: Alicia González Martín, UAM. 01/12/2020-31/05/2024. €300,000**.**
6. RTI2018-100008-A-I00. Functional analysis of microRNAs in immune tolerance and autoimmunity. Ministry of Science, Innovation and Universities, Spanish National Plan-Challenges 2018. PI: Alicia González Martín, UAM. 01/01/2019-30/09/2022. €193,600 + FPI predoctoral fellowship.
7. SI1-PJI-2019-00241. Novel role of CIITA in central B cell tolerance. Community of Madrid, 2019. PI: Alicia González Martín, UAM. 01/01/2020-31/03/2022. €47,600.
8. OPP1183956. Achieving Long-Term Humoral Protection Against HIV and other Antibody Resistant Pathogens. Bill and Melinda Gates Foundation (USA), 2019. PI: Alicia González Martín, UAM. 01/07/2019-31/06/2022. $103,000.
9. NIH R01AI121155. Regulation of T Follicular Helper Cell Differentiation by miRNAs. National Institutes of Health (USA), 2017. PI: Changchun Xiao, The Scripps Research Institute, California. 01/07/2017-31/01/2021. $1,738,266. Participation: Investigator.

C.4. Contracts, technological or transfer merits.

1. **González-Martín A**, Gonzalez P. European patent EP23382510.8-PCT/EP2024/064900. MicroRNAs for use in the stimulation of T cell antitumor responses. 30/05/2023, UAM.
2. Voss J*, Huang D*, **González-Martín A*,** Andrabi R*, Burton D*. **(* Equal contribution).** International Patent TSRI 1816.1 PCT / TSR2234P - SLW:1361.245WO1. B cell receptor engineering in B cell lines and primary B cells. 07/02/2019, The Scripps Research Institute. Licensed by Tabby Therapeutics (partially-exclusive), Tel Aviv, Israel, 11/01/2023.
3. Mañes S, Mira E, **González-Martín A**, Tardaguila M. Patent P201031015. Use of the Extracellular Superoxide Dismutase (SOD-3) for the adjuvant immunotherapy of cancer. 26/11/2012, Consejo Superior de Investigaciones Científicas (CSIC).

C.5. Additional selected merits

- Member of Plan Nacional (2019, 2020 and 2022) and Human Resources (2018) Study Sections for AEI, member of Study Sections for grants from FERO Foundation (2023 and 2024), permanent member of AECC´s evaluators panel (2023-present), and expert reviewer for grants of AEI, FWF (Austria), ANII (Uruguay) and ISF (Israel).
- L`Oréal-UNESCO Research Award 2018 and XXIII FERO Merit Award 2022.

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CURRICULUM VITAE (maximum 4 pages)

AGENCIA ESTATAL DE INVESTIGACIÓN

Part A. PERSONAL INFORMATION

CV date	15/09/2025

First and Family name	Ana Gutiérrez Fernández	
[redacted]	[redacted]	[redacted]
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0002-9287-8843
	SCOPUS Author ID (*)	9234544800
	WoS Researcher ID (*)	ABG-6678-2020
	Web of Science ResearcherID:	AAS-9954-2021

(*) Optional
(**) Mandatory

A.1. Current position

Name of University/Institution	University of Oviedo		
Department	Department of Biochemistry and Molecular Biology		
[redacted]	[redacted]		
[redacted]	[redacted]	E-mail	anaguti@uniovi.es
Current position	Associate Professor	From	17/09/2019
Key words	cancer, mouse models, proteases, molecular, next generation sequencing		

A.2. Education

PhD, Licensed, Graduate	University	Year
Bachelor in Science	Oviedo	1995
PhD	Oviedo/The Scripps Research Institute	2003

A.3. General indicators of quality of scientific production *(see instructions)*

- Research tracks (sexenios): 3 (last 2014-2018)
- H-index: 25
- Total number of publications: 35(30/35 in Q1; 14/35 en D1)
- Total number of citations (web of science): 3971/ 3797 without self-citations
- Average citation per year: 122.97
- PhD advisor last 10 years: 6 theses defended, 3 ongoing

CV SUMMARY

Ana Gutiérrez Fernandez is an Associate Professor at the University of Oviedo in the Department of Biochemistry and Molecular Biology. I carried out my PhD at the Scripps Research Institute (La Jolla, CA) under the supervision of Dr. Lindsey Miles working in the role of proteases implicated in coagulation but also its new function in neurite outgrowth and differentiation. During my doctoral thesis I published 5 papers (3 as first author). After completing my PhD, in 2003 I joined the laboratory of Professor Carlos López-Otin. In this lab, I have been working in the role of proteolytic systems in different process including cancer, aging or wound healing. During these years, I have generated different animal models to elucidate the role of different MMPs in physiological and pathological process using Molecular Biology techniques, chromosomal engineering, stem cells and cell culture. I had obtained a grant from AFM Telethon (France) in collaboration with Dr. Ana Perez Ruiz from CIMA (Navarra) to study the role of MMPs in muscular homeostasis and aging.

In parallel, my research interest has been also focused in the study of cancer and other genomic diseases using next generation sequencing techniques and performing functional studies to validate the identified mutations. In this regard, I have participated in the different works including the identification by exome sequencing of a new mutation in the gene BANF1

causing a novel progeroid syndrome (Néstor-Guillermo syndrome), mutations in FLNC as a new form of familial hypertrophic cardiomyopathy and more recently the role of recurrent non coding mutations in the small nuclear RNA U1 in medulloblastoma and chronic lymphocytic leukemia. During the last few years I have led the analysis of a novel animal model containing the mutation U1 g.3A>C. I have published 35 papers, 30 of them in Q1 and 14 in D1.

Beside my research activity, in 2017 I got a position as Assistant Professor and in 2019 as Associate Professor with tenure. I have full academic position teaching in Biology, Biotechnology and Chemistry and also in the Master of Biomedicine and Molecular Oncology. I have supervised 6 defended theses and another 3 ongoing. Since September 2020 I am the coordinator of the Master in Biomedicine and Molecular Oncology at University of Oviedo. I also participate in different dissemination activities for the general population and for high schools including the European Researchers Night, Science Week, or was the coordinator for the G-9 university program for the World Cancer Day in 2023. I have been the academic secretary of Instituto Universitario de Oncología del Principado de Asturias (IUOPA) (https://www.unioviedo.es/IUOPA) and since May 2024, I am the director of IUOPA.

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

C.1. Publications *(see instructions)*

- Bousquets-Muñoz P, Díaz-Navarro A, Nadeu F, Sánchez-Pitiot A, López-Tamargo S, Shuai S, Balbín M, Tubio JMC, Beà S, Martin-Subero JI, Gutiérrez-Fernández A, Stein LD, Campo E, Puente XS. (11/14) PanCancer analysis of somatic mutations in repetitive regions reveals recurrent mutations in snRNA U2. NPJ Genom Med. 2022. 7:19

- Aguirre A, González-Rodríguez S, García-Domínguez M, Lastra A, Gutiérrez-Fernández A, Hidalgo A, Menéndez L, Baamonde A. (5/8) Dual dose-related effects evoked by CCL4 on thermal nociception after gene delivery or exogenous administration in mice. Biochem Pharmacol. 2020. 175:113903

- Shuai S*, Suzuki H*, Díaz-Navarro Ander*, Nadeu F, Kumar SA, **Gutiérrez-Fernández A,…** Stein LD. (6/13). The U1 spliceosomal RNA is recurrently mutated in multiple cancers. *Nature* 2019. 574:712-716

- Suzuki H*; Kumar SA*, Shuai S, Diaz-Navarro A, **Gutiérrez-Fernández A,** …Taylor, MD. (5/68). Recurrent noncoding U1 snRNA mutations drive cryptic splicing in SHH medulloblastoma. *Nature* 2019. 574: 707-711

- Gutiérrez-Abril J, Santamaría I, Pitiot AS, **Gutiérrez Fernández A,** …Puente XS. (4/10). A t(1;9) translocation involving *CSF3R* as a novel mechanism in unclassifiable chronic myeloproliferative neoplasm. *Haematologica* 2017. 102:510-513

- Soria-Valles C, **Gutiérrez-Fernández A**, Osorio FG, …López-Otín C. (2/11). MMP-25 metalloprotease regulates innate immune response through NK-kB signalling. *J. Immunol.* 2016. 197;296-302.

- Reinstein E, **Gutiérrez-Fernández A**, Tzur S,…López-Otín C. (2/14). Congenital dilated cardiomyopathy caused by biallelic mutations in Filamin C. *Eur J Hum Genet*. 2016. 24: 1792-1796.

- **Gutiérrez-Fernández A,** Soria-Valles C, Osorio FG,…Puente XS, López-Otín C. (1/10). Loss of MT1-MMP causes cell senescence and nuclear defects which can be reversed by retinoic acid. *EMBO Journal* 2015. 34:1875-1888

- Valdés-Mas R*, **Gutiérrez-Fernández A*,** Gómez J,…Puente XS*, López-Otín C*. (1*/13). Mutations in filamin C cause a new form of familial hypertrophic cardiomyopathy. *Nature Communications* 2014. 5: 5326

- Soria-Valles C, **Gutiérrez-Fernández A**, Guiu M, Mari B, Fueyo A, Gomis RR, López-Otín C. (2/7). The anti-metastatic activity of collagenase-2 in breast cancer cells is mediated by a signaling pathway involving decorin and miR-21. *Oncogene*. 2014. 33, 3054-3063

C.2. Research projects

TITLE: Convenio de Colaboración entre la Administración del Principado de Asturias, a través de la Consejería de Ciencia, Empresas, Formación y Empleo, y la Universidad de Oviedo. Proyecto: Programa Plurianual de investigación sobre el Cáncer (2025-2028)"
FUNDING AGENCY: P.A.-PRINCIPADO DE ASTURIAS PA-24-IUOPA(2025-2028)
FROM: 15/10/2024 TO: 31/12/2028 BUDGET: 2.200.000 €
PI: Ana Gutiérrez Fernández PARTICIPATION: IP

TITLE: Proyectos Generación del Conocimiento 2023 "Efecto de la alteración del splicing en cáncer, sistema inmune y metabolismo
FUNDING AGENCY: AGENCIA ESTATAL DE INVESTIGACION. PID2023-148997OB-I00
FROM: 01/09/2024 TO: 31/08/2027 BUDGET: 260.000 €
PI: Xose S Puente PARTICIPATION: Research Team

TITLE: Functional characterization of mutations in cancer diver genes involved in RNA maturation (FUNCAR)"
FUNDING AGENCY: Fundacion cientifica de la asociacion española contra el cáncer–AECC (2021/00109/001)
FROM: 1/12/2021 TO: 30/11/2024 BUDGET: 187.875 €
PI: Xose S Puente PARTICIPATION: Research team

TITLE: Caracterización funcional de mutaciones en genes conductores del cáncer implicados en la maduración del RNA
FUNDING AGENCY: Ministerio de Ciencia e Innovación (PID2020-117185RB-I00)
FROM: 2021 TO: 2024 BUDGET: 266.200 €
PI: Xose S Puente PARTICIPATION: Research team

TITLE: Biología Molecular del Envejecimiento y Cáncer
FUNDING AGENCY: Consejería de Ciencia, Innovación y Universidad del Principado de Asturias (GRUPIN 21-23)- SV-PA-21-AYUD/2021/51062
FROM: 2021 TO: 2023 BUDGET: 216.000 €
PI: Ana Gutiérrez Fernández PARTICIPATION: IP

TITLE: Deconstructing Ageing: from molecular mechanisms to intervention strategies
FUNDING AGENCY: European Research Council (UE-17-DEAGE-ERC16-ADG)
FROM: 2017 TO: 2022 BUDGET: 2.500.000 €
PI: Carlos López Otín (University of Oviedo) PARTICIPATION: Research team

TITLE: Exploración de las claves del cáncer y del envejecimiento mediante combinación de estrategias dependientes e independientes de hipótesis
FUNDING AGENCY: Ministerio de Economía y Competitividad - SAF2017-87655-R

FROM: 2018 TO: 2020
PI: Carlos López Otín PARTICIPATION: Research team

TITLE: : Role of proteases in muscular homeostasis and aging
FUNDING AGENCY: AFM-Telethon 19639
FROM: 2016 TO: 2019 BUDGET: 120.000 €
PI: Ana Gutiérrez Fernández/Ana Isabel Perez Ruiz PARTICIPATION: PI

TITLE: Integración de aproximaciones genómicas y funcionales para el estudio del cáncer y del envejecimiento
FUNDING AGENCY: Ministerio de Economía y Competitividad - SAF2014-52413-R
FROM: 2014 TO: 2017
PI: Carlos López Otín PARTICIPATION: Research team

TITLE: Mecanismos moleculares: caracterización molecular de tumores, genómica del cáncer y biomarcadores.
FUNDING AGENCY: Instituto de Salud Carlos III. FISS-13-RD12/0036/0067
FROM: 2013 TO: 2016
PI: Carlos López Otín PARTICIPATION: Research team

TITLE: Análisis genómico y funcional de los sistemas proteolíticos en condiciones normales y patológicas: aplicaciones al estudio del cáncer y del envejecimiento
FUNDING AGENCY: Ministerio de Educación y Ciencia (SAF2011-23089)
FROM: 2012 TO: 2014
PI: Carlos López Otín PARTICIPATION: Research team

TITLE: Análisis funcional del Degradoma Humano: aplicaciones al estudio del cáncer y envejecimiento
FUNDING AGENCY: Ministerio de Educación y Ciencia (SAF2006-0476)
FROM: 2006 TO: 2011
PI: Carlos López Otín PARTICIPATION: Research team

C.3. Contracts, technological or transfer merits

C.4. Patents

C.5, C.6, C.7…

PhD Thesis (Last 10 years)

Sara López- Tamargo. Aplicación de tecnologías de secuenciación de célula única en la investigación del cáncer hematológico:Descifrando el impacto de las mutaciones en factores del splicing. July 2025

Pablo Bousquets - Nuevos enfoques en oncología de precisión: caracterización del paisaje mutacional del genoma repetitivo y relojes moleculares del cánce. July 2024

Ander Díaz Navarro. Desarrollo de una herramienta para la identificación de mutaciones somáticas y análisis de mutaciones no codificantes en cáncer. U. Oviedo. July 2022. International mention and extraordinary prize.

- Jesús Gutiérrez Abril. Identification of novel genes and molecular mechanisms involved in tumorigenesis through the use of Next-Generation Sequencing Technologies. U. Oviedo. March 2018.

- Clara Valle Soria. Tissue remodeling and cell reprogramming in cancer and aging. U. Oviedo. June 2015. International mention and extraordinary prize.

- Alina Aguirre Quevedo. Implicación de distintos sistemas proteolíticos en modelos de lesión pulmonar aguda. U. Oviedo. July 2014.