MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE (CVA)

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

Part A. PERSONAL INFORMATION

CV date	01/09/2023

First name			Pedro Pablo	Family name	Medina Vico
Gender			Male	Birth date	14/09/1978
ID number	74648937E	e-mail	pedromedina@ugr.es	URL Web	www.cancer.ugr.es
Open Researcher and Contributor ID (ORCID) (*)			0000-0002-7834-7093		

A.1. Current position

Position	Professor/Catedrático (CU), Group Leader CTS-993		
Institution	Universidad de Granada (UGR)		
Department/Center	Dept. Bioquímica y Biología Molecular I	GenyO (www.genyo.es)	
Country	Spain	Teleph. number	+34 958 715 500
Key words	Non-coding-RNA, Chromatin-remodeling, lung cancer		

A.2. Previous positions (research activity interruptions, see call)

Period	Position/Institution/Country/Interruption cause
2006-2007	Postdoctoral Associate CNIO, www.cnio.es
2007-2012	Postdoctoral Fellow, Yale University, www.yale.edu
2012-2017	Ramon y Cajal (RyC) Researcher, GenyO (www.genyo.es), UGR (www.ugr.es).
2017-	UGR Staff Professor (PCD, PTU and finally CU).

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Graduate/Bachelor degree	UGR, www.ugr.es	2001
Doctorate	Autónoma de Madrid, www.uam.es	2006

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

I **graduated** from the UGR with honors in 2001 (last 3 courses GPA of 4.00/4.00). I **started my Ph.D**. at the lab of Dr. M. Sánchez-Céspedes at CNIO (Madrid) where I studied the molecular biology of lung cancer working on different projects, which included: the study of polymorphic variations of DNA repair genes and their implications in lung cancer, the study of the tumor suppressors *SMARCA4/BRG1* and *STK11/LKB1*, and the study of oncogenic amplifications. During my stay at Dr. Sánchez-Céspedes's lab (2001-2007), I participated in 12 publications (6 of them as first-author), communicated my results at more than twenty international conferences, being awarded for some of these presentations (Genes & Cancer Congress, Warwick, UK) and I visited for 3 months the laboratory of Dr. Hans Clevers (Hubrecht laboratorium, Utrecht). My thesis obtained the "European Doctorate Mention", *Cum laude*, and the award to the *best national thesis in biomedicine* given by the *Royal Academy of Doctors from Spain*.

I moved to the USA in 2007 for a **postdoctoral training** of 5-years at Yale University in the laboratory of Professor Frank Slack to study microRNAs and their involvement in cancer. I funded this period by obtaining competitive fellowships: firstly, a Postdoctoral Fellowship of the Spanish Ministry of Education and subsequently a *Hope Funds for Cancer Research* postdoctoral Fellowship (2% rate of success). During this period (2007-2012), I published 6 articles (4 of them as first author). Among the most interesting results I obtained is the demonstration for the first time *in vivo* of the importance of non-coding RNAs in the development and maintenance of tumors. This work, that I lead as first author and only have other 2 authors more, was published in *Nature* in 2010 getting the prestigious *Yale Cancer Center Award*, is referred a *must-read* by faculty opinions (f1000), and is ranked in the top 1% of cited articles at *Clinical Medicine* according to *Clarivate Essential Science Indicators*. After considering group-leader job offers in top international institutions (Karolinska (Sweden), MD Anderson (USA), etc) I decided to return to Spain applying to different programs. My application was ranked #1 among the 235 applicants in the Miguel Servet Program and obtained a score of 99.5/100 in the Ramon y Cajal

program. I started my **independent research** at the UGR where I lead the CTS-993 group (approved by Plan Andaluz de Investigación, Desarrollo e Innovación (PAIDI) in 2014) in the Center for Genomics and Oncology Research (GenyO). My main research lines relate to the role of chromatin-remodeling complexes and non-coding RNAs in cancer development. During my career, I have published articles in prestigious journals (*Nature, Nature Methods, Nature Communications, Molecular Cancer, Cancer Cell, Journal of Clinical Oncology, Blood, Leukemia, Journal of Hematology & Oncology, Oncogene, etc.*) more than half as main author (first or last). I have been invited as a speaker to more than thirty centers in different countries (USA, Germany, Switzerland, Denmark, Singapore, France, Portugal, and Spain some of which have been chair or keynote talks. I have been funded in more than thirty international, national, and regional competitive calls. I have served as grant reviewer for ERC Starting grants and for Spanish, French, Swiss, Polish, etc. governmental research agencies (> 40 times). I have worked as expert consultant for several international companies (*Eversheds Sutherland, Wuesthoff & Wuesthoff.* etc*).* For my career achievements, I have been awarded some international distinctions (*IASLC Young investigator Award*, *BIAL Foundation*, etc).

On the **academic side**, I have progressed through the teaching figures: Assistant Professor (PCD), Associate Professor (PTU), and currently, I am a full Professor (Catedrático, ANECA certified) at the Biochemistry & Molecular Biology Dept. (UGR) teaching in the grades of Biology, Biochemistry, and Biotechnology. I have taught 9 different official postgrad courses from 6 different Universities. Despite I have a dedicated teaching load (160 hours/yearly), I have carried out an intense task of tutoring young researchers in more than eighty funded activities, some of which have been awarded (*Certamen Universitario Arquímides*, organized by the Ministry of Education of Spain), including hosting in our lab >12 international researchers from different countries (France, USA, Germany, Austria, Hungary, Slovenia, Russia, etc). Until 2023 I have directed 23 grade theses (TFG), 31 master theses (TFM), and 9 Ph.D. theses. The doctorates who graduated from my laboratory are pursuing their scientific careers at renowned centers at Harvard University (USA), EMBL (Germany), Francis Crick University (UK), Karolinska Institute (Sweden), Marie Curie Institute (France), University of Geneva (Switzerland), etc. after getting prestigious fellowships (MSCA, EMBO, etc.). Currently, I serve pro-bono as a member of the advisory council of the *Hope Funds For Cancer Research*, New Port (RI, USA) and director of the Director of the Chair *"Heroes contra la Leucemia"* of the University of Granada.

Part C. RELEVANT MERITS

C.1. Publications (Selection of recent publications, full list in 0000-0002-7834-7093)

- Álvarez-Pérez JC et al, et al **Medina PP** (9/9) (CA). High-fidelity Cas9-mediated targeting of KRAS driver mutations restrains lung cancer in preclinical models. Under review in *Nature Communications.*
- Benitez-Cantos MS et al, et al **Medina PP** (4/4) (CA). Activation-induced cytidine deaminase causes recurrent splice site mutations in DLBCL. *Molecular Cancer* (D1, IF= 37.5). *Article featured in the nature briefing cancer as a must-read paper.*
- Esposito R (CA), Lanzós A, Uroda T et al., Johnson R (CA). (25/33). Tumour mutations in long noncoding RNAs enhance cell fitness. *Nature Communications* 2023
- Arenas A, Ruiz-Jiménez J, López-Hidalgo J, Sanjuán-Hidalgo J, **Medina PP** (CA). Defining the first bona fide cell model for SMARCA4- deficient, undifferentiated tumour. *Journal of Pathology* 2023.
- Patiño-Mercau JR, Baliñas-Gavira C, Andrades A., et al. **Medina PP** (CA). (9/9) BCL7A is silenced by hypermethylation to promote acute myeloid leukemia. *Biomarkers Research* 2023 (D1, IF=11,1).
- Andrades A, Peinado P, Álvarez-Pérez JC, Sanjuán-Hidalgo J, García D, Arenas AM, Matia-González A, **Medina PP** (CA). (SWI/SNF complexes in hematological malignancies: biological implications and therapeutic opportunities. *Molecular Cancer* 2023 (D1, IF= 42)
- Gallardo A., Molina A., Asenjo H., et al., Landeira D (CA). (12/16). EZH2 endorses cell plasticity to carcinoma cells facilitating mesenchymal to epithelial transition and tumour colonization. *Oncogene* 2022
- Esposito R., Polidori T., Meise D., et al., Johnson R (CA). (22/28). Multi-hallmark long noncoding RNA maps reveal non-small cell lung cancer vulnerabilities. *Cell Genomics* 2022.
- Peinado P., Andrades A., Cuadros M., et al **Medina PP** (CA). (13/13). Multi-omic alterations of the SWI/SNF complex define a clinical subgroup in lung adenocarcinoma. *Clinical Epigenetics* 2022
- Andrades A., Álvarez-Pérez JC., Patiño-Mercau JR., Cuadros M., Baliñas-Gavira C., **Medina PP** (CA). Recurrent splice site mutations affect key diffuse large B-cell lymphoma genes. *Blood* 2022 (D1, IF=25,5).

- Boyero L., Martin-Padron J., Fárez-Vidal M., et al., **Medina PP** (CA). (11/11). PKP1 and MYC create a feedforward loop that links transcription and translation in squam cell lung cancer. *Celullar Oncology* 2022 (D1, IF=7,1).
- Cuadros M. (CA), Cano C., Garcia-Rodriguez S., et al., Lizardi P. (13/16). Acceleration of the DNA methylation clock among lynch syndrome-associated mutation carriers. *BMC Medical Genomics* 2022.
- Arenas AM., Andrades A., Patiño-Mercau JR., et al **Medina PP (**CA). (11/11). Opportunities of miRNAs in cancer therapeutics. Book Chapter of MicroRNA in Human Malignancies. Elsevier 2022. ISBN: 595657.2022.
- Haswell JR., Mattioli K., Gerhandinger C., et al., Slack FJ (CA). (8/10). Genome-wide CRISPR interference screen identifies long non-coding RNA loci required for differentiation and pluripotency. *Plos one.* 2021.
- Peinado P., Andrades A., Martorell-Marugan J., Haswell JR., Slack FJ., Carmona-Sáez P., **Medina PP** (CA). The SWI/SNF complex regulates the expression of miR-222, a tumor suppressor microRNA in lung adenoc. *Human Molecular Genetics* 2022
- Romero OA., Villarubi A., Albuquerque-Bejar J., et al., Sanchez-Cespedes M (CA). (17/20). SMARCA4 deficient tumours are vulnerable to KDM6A/UTX and KDM6B/JMJD3 blockade. *Nature Communications* 2021.
- Cuadros M., García D., Andrades A., et al **Medina PP** (CA). (13/13). LncRNA-mRNA co-expression analysis identifies AL133346.1/CCN2 as biomarkers in pediatric B-cell ALL. *Cancers* 2020.
- Peinado P., Andrades A., Cuadros M., et al **Medina PP** (CA). (16/16). Comprehensive analysis of SWI/SNF inactivation in lung adenocarcinoma cell models. *Cancers* 2020 (Q1, IF=6.6)
- Baliñas-Gavira C., Rodriguez M., Andrades A., et al., **Medina PP** (CA). (14/14). Frequent mutations in the amino-terminal domain of BCL7A impair its tumor suppressor role in DLBCL. *Leukemia* 2020 (D1, IF=11.5) *Article awarded with the prize of the Real Academia de Medicina de Andalucía (RAMAO).*
- Molina A., Cuadros M., Andrades A., et al **Medina PP** (CA). (10/10). LncRNA DLG2-AS1 acts as biomarker in lung adenocarcinoma. *Cancers*. 2020 (Q1, IF=6,6)
- Martín-Padrón J., Boyero L., Rodriguez MI., et al **Medina PP** (CA). (11/11). Plakophilin 1 enhances MYC expression, promoting squamous cell lung cancer. *Oncogene* 2020 (D1, IF=10). *Article featured in the special issue: The best of Oncogene*.
- Cuadros M., Andrades A., Coira I., et al. **Medina PP** (CA). (13/13). Expression of the long non-coding RNA TCL6 is associated with clinical outcome in pediatric B-cell ALL. *Blood Cancer* 2019 (D1, IF=11). *Article featured in the special issue: The best of Blood Cancer Journal 2019.*
Article featured in the "article of the month"Sept 2020 by the SEBBM.
Article awarded with Official College of Physicians of Granada Award.
- Peinado P., Herrera A., Baliñas C., et al **Medina PP** (CA). (12/12). Long non-coding RNAs as cancer biomarkers. Book chapter of *Cancer and Non-coding-RNAs*, Ed: Elsevier International. ISBN: 9780128110225. 2018.
- Cuadros M, Sánchez-Martín V., Herrera A., Baliñas C., Martín-Padrón J., Boyero L., Peinado P., **Medina PP** (CA). BRG1 regulation by miR-155 in human leukemia cell lines. *Clin Transl Oncol*. 2017.
- Coira IF., Rufino-Palomares E., Romero OA., et al., **Medina PP** (CA). (14/14). Expression inactivation of *SMARCA4* by microRNAs in lung tumors. *Human Molecular Genetics* 2015.
- Schiaffino-Ortega S., Balinas C., Cuadros M., and **Medina PP** (CA). SWI/SNF proteins as target in cancer therapy. Journal of Hematology & Oncology 2014.
- Muñoz-Lopez M, **Medina PP,** Garcia-Perez JL. Wiping methylation: Wip1 regulates genomic fluidity on cancer. *Cancer Cell*. 2013.
- Palma P, Cuadros M, Conde-Muíño M., et al **Medina P.** (10/10). Microarray profiling of mononuclear peripheral blood cells identifies novel genes related to chemoradiation response in rectal cancer. *PLoS One*. 2013.
- Rufino-Palomares EE., Reyes-Zurita F., Lupiáñez JA., **Medina PP** (CA). MicroARNs as oncogenes and tumor Suppressors. Chapter #14 of *"MicroRNAs in Medicine"* ISBN: 978-1-118-30039-8. Wiley Ed. January, 2014.
- Chen PY., Qin L., Barnes C., et al., Simons M (CA). (8/15). FGF regulates TGFβ signaling and endothelial-to-mesenchymal transition via control of *let-7* miRNA expression. *Cell Reports* 2012.
- **Medina P.P.**, Mona Nolde and Frank J. Slack (CA). OncomiR addiction in an in vivo model of microRNA-induced pre-B cell lymphoma. *Nature. 2010 Sep 2;467(7311):86-90. PMID: 20693987.*
Article awarded with the Basic Research Award of the Yale Cancer Center 2010. o Recommended by Faculty of 1000 as mandatory reading article faculty opinions (f1000). Classified in the 1% of the most

cited papers in the area of *clinical medicine* according to Essential Science indicator form Clarivate Analytics.
- **Trang P. (*), Medina PP. (*),** Wiggins JF et al., Slack FJ (CA). (1*/11). Regression of murine lung tumors by the *let-7* microRNA. *Oncogene*. *2010.*:* 1st authorship shared.
- **Medina PP**, Slack FJ (CA). Blocking miRNAs *in vivo*. *Nature Methods*. 2009.

C.2. Congress

More than two hundred scientific communications in total (AACR, IASLC, ASCO, EMBO/EMBL Symposium, etc.), 58 as speakers in centers including Harvard University, MD Anderson, Yale University, Rutgers University, CSI Singapore, University of Geneva, IRB Mainz, Aarhus University, IRB-Barcelona, CNIO-Madrid, CRG-Barcelona, etc. Remarkably, **our scientific communications have obtained more than ten awards in different meetings**, the last of them "*Best Oral Communication*" in the 3rd Education ASEICA meeting (November 23-25, 2021), or the "*EACR prize for the best scientific poster*" in the 18th ASEICA international congress (November 2022).

C.3. Research projects

Research projects as PI awarded in a competitive basis / Supervisor (selection)
- *Estudio de las implicaciones del gen BCL7A en el desarrollo tumoral.* Entity: Fundación BBVA *(Becas Leonardo). Date:* 2014-2015. Success rate 3%. *Funds:* 39,900€.
- *Involvement of microRNAs in haematological malignancies. Ref:* FIJC2011-F11/01. *Entity:* Deutsche JC Leukämie-Stiftung *Date:* 2014-2017. *Funds:* 150,000$.
- *Gene Expression Regulation and Cancer*. Ref: FP7-PEOPLE-2012, #321926. *Entity:* European Commission. *Date:* 2014-2016. *Funds:* 100,000€.
- *ARID1B mouse mutant generation.* Entity: European Commission. Ref: INFRAFRONTIER-I3 (Number 312325). *Date:* 2013.
- *Cromatina, ARN no Codificante y Cáncer*. Ref: SAF2015-67919-R. Entity: Spanish Government. *Date:* 2016-2019. Co-IP: Marta Cuadros. *Funds:* 130,000€.
- *New therapies for lung cancer based on gene-editing technologies.* Entity: The International Association for the Study of Lung Cancer. *Date:* 2018-2019. *Funds:* 50,000$.
- *Exploring new therapies for lung cancer*. Ref: LabAECC2018. Entity: Asociación Española Contra el Cáncer (AECC). *Date:* 2018-2022. *Funds:* 300,000€.
- *Study the therapeutic and preventive potential of targeting oncogenic mutations with CRISPR-CAS9 technology.* Ref: H2020-MSCA-IF-2018, # 837897. *Entity:* European Commission. *Date:* 2019- 2021, Fellow: JC Alvarez-Perez. *Funds:* 160,932 €.
- EurOPDX (European Union's Horizon 2020, grant agreement no. #731105) II call for free-of-charge Access to patient-derived xenografts and hands-on training. Date: 2020.
- *Development of experimental and pre-clinical therapeutic strategies for acute myeloid leukemia.* Ref: PI-0135-2020. *Entity*: Junta de Andalucía. *Date:* 2021-2023. *Funds:* 143,750€.
- *The role of chromatin remodeling complexes in hematological malignancies.* Ref: P20-00688. *Entity:* Junta de Andalucía. Date: 2021-2023, Funds: 70,000€.
- *Development of Experimental and Pre-Clinical therapeutic strategies for squamous cell Carcinoma of the lung.* Ref: PIGE-0213-2020. Entity: Junta de Andalucía, Date: 2020-2023, Co-PI: M Rodríguez, Funds: 123,750€.
- *Búsqueda de nuevas estrategias terapéuticas para el cáncer de pulmón.* Ref: B-CTS-480-UGR20. *Entity:* UGR, Date: 2021-2023, Funds: 25,000€.
- *Molecular and functional characterization of new lung cancer drivers.* Ref: PI-0203-2022. Entity: Junta de Andalucía, Date: 2023-2026, Co-PI: Ana Matía. Funds*:* 120,000€.
- *Dissecting the role of SWI/SNF complex in human pathology*. Ref: PID2021-126111OB-I00. Entity: Spanish Government. Date: 2023-2026. Funds*:* 242,000€.

Collaborator in another 17 projects of different national and international entities.

C.4. Contracts, technological or transfer merits

- 2020 "BCL7A for use in the diagnosis, prognosis, prevention, improvement, relief or treatment of diffuse large B-cell lymphoma and methods, kits and devices based on said use" Reference: P202030634. Owner entity: SAS/UGR. Principal Inventor: Pedro P. Medina (PPM).
- 2020 "Biomarkers for diagnosis, prognosis, prevention, improvement, relief or treatment of pediatric b-cell ALL" Reference: P202031253. Owner entity: UGR. Principal Inventor: PPM
- 2023 "Therapeutic strategies for NUT carcinoma" Reference: P202430192. Owner entity: UGR. Status: submitted. Principal Inventor: PPM.