MINISTERIO DE CIENCIA E INNOVACIÓN

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE ABREVIADO (CVA)

Parte A. PERSONAL INFORMATION

First name	Andrés Joaquín		
Family name	López Contreras		
Gender (*)	Man	Birth date	
DNI			
e-mail		URL Web	
Open Researcher and Contributor ID (ORCID)			

A.1. Current position

Position	Investigador Científico CSIC		
Initial date	04/06/2024		
Institution	Centro Andaluz de Biología Molecular y Medicina Regenerativa (CABIMER/CSIC)		
Department/Center	Genome Biology (CABIMER)		
Country	Spain	Teleph. number	
Keywords	Genome Instability, Replication Stress, Cancer, Mouse models		

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

Period	Position/Institution/Country/Interruption cause
2004-2008	PhD Student/University of Murcia/Spain
2009-2014	Postdoc/Spanish National Cancer Research Center (CNIO) /Spain
2014-2020	Associate Professor and Group Leader/University of Copenhaguen/Denmark
2020-2024	Científico Titular CSIC/ CABIMER / Spain
2024	5-months interruption (paternity leave and childcare)

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Biochemistry	University of Murcia, Spain	2008
Medicine Degree	University of Murcia, Spain	2008
Biochemistry Degree	University of Murcia, Spain	2004

Part B. CV SUMMARY *(máx. 5.000 characters, including spaces)*

I did my **PhD at the University of Murcia** under the supervision of Prof. Rafael Peñafiel. In my PhD thesis I investigated genes regulating the metabolism of polyamines, characterizing a novel gene in this pathway, AZIN2 (*JBC* 2006, *JBC* 2008, *J Cell Biochem* 2009). During my **postdoc, at the CNIO** in the laboratory of Prof Oscar Fernandez-Capetillo (2009-2014), I focused on the study of DNA damage and replication stress, contributing to our understanding of the ATR pathway in cancer and to the implementation of ATR inhibitors as therapeutic compounds (*NSMB* 2011, patent WO2016112374A9). During my postdoc I acquired experience in the generation and characterization of genetic mouse models for cancer research. I generated a transgenic mouse model with an extra copy of CHEK1 that served to characterize its role in cancer progression (*J Exp Med* 2012), cell reprogramming (*Nat Comms* 2015), and, more recently, in aging (*Aging* 2020), and female fertility (*Nature* 2021).

In 2014, I initiated my research group at the **University of Copenhagen**. I obtained several national grants and an *ERC Starting Grant* to investigate the chromosome loci known as Common Fragile Sites (CFS). These loci are conserved in all the individuals, are particularly prone to break in the presence of replication stress, and account for many of the chromosomal alterations found in cancer. We performed a proteomics characterization of the CFS associated chromatin and described the role of ATRX at CFSs (*Nucleic Acid Res* 2019). In addition, we generated the first mouse model deficient for the DNA translocase PICH characterizing its relevance to maintaining chromosome stability during embryonic development (*Cell Reports* 2018). In 2020, I obtained a **"Cientifico Titular" CSIC position at**

CABIMER (Sevilla), and moved my research group to CABIMER. During this time, we have continued with the characterization of the chromatin remodeler ATRX in cancer (*Cancers* 2022, *Trends in Genetics* 2023). And we have recently shown that PICH facilitates the progression of MYC-induced lymphomas and is a promising therapeutic target for Burkitt Lymphoma (*Blood Cancer Journal* 2024).

During the last years, I have actively participated in the **revision of national and international grants** and acted as **reviewer** for different international journals. I have been part of **15 PhD thesis assessment committees**, and I have **co-organized one international meeting**. I have also actively participated in the **"ERC mentoring program"** organized by CSIC in the past two years. I have participated in **dissemination activities** such as Copenhagen Culture Night, European Culture Night, Semana de la Ciencia de Sevilla, and giving seminars at high schools.

Below are some relevant indicators of my scientific productivity:

-Total number of **publications: 56** (47 original research articles, 8 reviews and 1 book chapter)
-Number of publications in the first quartile (Q1): 46
-h-index: 27 (Scopus)
-Total citations: 2795 (Scopus)
-PhD theses supervised: 4 (another three ongoing)
-Master theses supervised: 6
-Contribution to Conferences: 24 international conferences, 12 as speaker, 4 of them as invited speaker and 1 as co-organizer.
-Research grants as principal investigator: 10
-Sexenios de investigación: 3
-Patents: 1
-Most relevant publications:

As first author: *J Biol Chem*, 2006; *J Biol Chem*, 2008; *The Journal of experimental medicine*, 2012; *Cell Reports*, 2013; *Genes & Development*, 2015 (co-corresponding author)

As last and corresponding author: *Transgenic Research*, 2017; *Cell Reports*, 2018; *Nucleic Acid Research*, 2019; *Aging*, 2020; *Cancers*, 2022; *Trends in Genetics*, 2023; *Blood Cancer Journal*, 2024

In addition, I have contributed to relevant publications as co-author in *Nature*, *Cell*, *Mol Cell, Cell Stem Cell, Nature Struct Mol Biol* (2), *Nature Comms* (2), *PLoS Genet*, *JExpMed*, *eLife*.

Part C. RELEVANT MERITS

C.1. Publications

1- Castejón-Griñán M, Albers E, Simón-Carrasco L, …, **Lopez-Contreras AJ**(*). (2024) PICH deficiency limits the progression of MYC-induced B-cell lymphoma. ***Blood Cancer Journal***, 14(1):16 doi: 10.1038/s41408-024-00979-y. (author position **13/13**) (*) corresponding author

2- Aguilera P, **López-Contreras AJ**(*). (2023) ATRX, a guardian of chromatin. ***Trends in Genetics***, 39(6):505-519. (author position **2/2**) (*) corresponding author

3- Pladevall-Morera D, Castejón-Griñán M, Aguilera P, Gaardahl K, Ingham A, Brosnan-Cashman JA, Meeker AK, **Lopez-Contreras AJ**(*). (2022) ATRX-Deficient High-Grade Glioma Cells Exhibit Increased Sensitivity to RTK and PDGFR Inhibitors. ***Cancers (Basel)***, 14(7):1790. (author position **8/8**) (*) corresponding author

4- Ruth KS, Day FR, Hussain J, …, Perry JRB. (2021) Genetic insights into biological mechanisms governing human ovarian ageing. ***Nature***, 596(7872):393-397 (author position **166/184**)

5- Albers E, Avram A, Sbroggio M, Fernandez-Capetillo O, **Lopez-Contreras AJ**(*). (2020) Supraphysiological protection from replication stress does not extend mammalian lifespan. ***Aging*, 12**: 5612-5624 (author position **5/5**) (*) corresponding author

6- Atashpaz S, Shams S, Martin J, … F, **Lopez-Contreras AJ**, Costanzo V (2020) ATR expands embryonic stem cell fate potential in response to replication stress. ***eLife,* 9**: e54756 (author position **16/17**)

7- Pladevall-Morera D, Munk S, Ingham A, Garribba L, Albers E, Liu Y, Olsen JV, **Lopez-Contreras AJ**(*). (2019) Proteomics characterization of Chromosomal Common Fragile Site

(CFS) - associated proteins uncovers ATRX as a regulator of CFS stability. ***Nucleic Acid Res***, **47**:8004-8018 (author position **8/8**) (*) corresponding author

8- Albers E, Sbroggiò M, Pladevall-Morera D, Bizard AH, Avram A, Gonzalez P, Martin-Gonzalez J, Hickson ID, **Lopez-Contreras AJ**(*). (2018) Loss of PICH results in chromosomal instability, p53 activation and embryonic lethality. ***Cell Reports***, **24**: 3274-3284 (author position **9/9**) (*) corresponding author

9- Munk S, Sigurðsson JO, Xiao Z, Batth TS, Franciosa G, von Stechow L, **Lopez-Contreras AJ**, Vertegaal ACO, Olsen JV (2017) Proteomics Reveals Global Regulation of Protein SUMOylation by ATM and ATR Kinases during Replication Stress. ***Cell Reports*** **21:** 546-558 (author position **7/8**)

10- Lopez-Contreras AJ (*), Specks J, Barlow JH, …, Fernandez-Capetillo O (2015) Increased Rrm2 gene dosage reduces fragile site breakage and prolongs survival of ATR mutant mice. ***Genes & development*** **29:** 690-695 (author position **1/12**) (*) co-corresponding author

C.2. Congress

Contribution to 24 international conferences, 12 as speaker, 8 of them as invited speaker and 1 as co-organizer.
2024, *Invited Speaker*, Chromodyst Meeting. Madrid (Spain).
2023, *Invited Speaker*, CSIC Conexión Cancer Meeting. Benidorm (Spain).
2022, *Speaker*, 2nd International Symposium Cell Division and Genome Dynamics. Salamanca (Spain).
2020, *Invited Speaker*, CABIMER International Workshop. Sevilla (Spain).
2019, *Invited Speaker*, 42th Congress of the SEBBM. Madrid (Spain).
2017, *Co-organizer*, UNIA International conference UNIA. Baeza, Spain.
2017, *Invited Speaker*, Spanish Societies of Genetics, Cell Biol. and Dev. Biol., Gijon.
2017, *Invited Speaker*, FUSION Conference. Rome (Italy).
2014, *Invited Speaker*, FUSION Conference. Casablanca (Morocco).
2014, *Invited Speaker*, aDDRess Annual Meeting (Marie Curie, 7th Framework prog.). Milan.
2013, *Invited Speaker*, 14th ASEICA International Congress. Madrid (Spain).

C.3. Research projects.

2022 – 2026 **MSCA PhD International network Replifate (101072903), HORIZON-MSCA- European Commission.**
Title: DNA replication at the heart of cell fate decisions and cancer development.
Coordinator: Emilio Lecona (CBMSO/CSIC). I am the PI of one of the PhD fellows.
Budget: 234.000 €

2021 – 2022 **Proyecto P20_00755, PAIDI2020, Junta de Andalucia**
Title: Novel PICH deficient mouse model to unravel the consequences of DNA segregation defects in fertility and cancer.
PI: Andres J Lopez-Contreras (CABIMER/CSIC)
Budget: 75.000 €

2021 – 2024 **Plan Nacional-Retos investigación 2020 PID2020-119329RB-I00, Spanish Ministry of Science and Innovation**
Title: Identifying novel therapeutic opportunities in the DNA Damage Response to treat cancer.
PI: Andres J Lopez-Contreras (CABIMER/CSIC)
Budget: 180.000 €

2016 – 2022 **ERC Staring Grant 679068**, **H2020- European Research Council.**
Title: Chromosomal Common Fragile Sites: Unravelling their biological functions and the basis of their instability
PI: Andres J Lopez-Contreras (University of Copenhagen until 2020; CABIMER/CSIC)
Budget: 1.499.000 €

2019 – 2020 **LÊge Sophus Carl Emil Friis og hustru Olga Doris Friis Ï Legat.**
Title: A novel PICH deficient mouse as a model to investigate X-Chromosome Inactivation in

X-linked disorders.
PI: Andres J Lopez-Contreras (University of Copenhagen)
Budget: 67.000 €

2018 – 2020 **KBVU Project 2017_R167-A11063**, **Danish Cancer Society.**
Title: Deciphering novel breast cancer markers, therapeutic targets and drugs in the BRCA1 pathway.
PI: Andres J Lopez-Contreras (University of Copenhagen)
Budget: 188.000 €

2014 – 2017 **Sapere Aude-DFF Starting Grant DFF-4004-00185, Danish National Research Program.**
Title: Exploring the impact of Replicative Stress on Ageing and Cancer: from nucleotide metabolism to replisome proteomics.
PI: Andres J Lopez-Contreras (University of Copenhagen)
Budget: 565.000 €

2015 – 2016 **KBVU-2014_R09-A6031, Danish Cancer Society.**
Title: Identification of targets for the BRCA1 ubiquitin ligase activity as candidate breast and ovarian cancer susceptibility factors.
PI: Andres J Lopez-Contreras (University of Copenhagen)
Budget: 188.000 €

C.4. Contracts, technological or transfer merits.

Patent: Chemical Entities Useful as **ATR inhibitors**.
ID: WO2014140644-A1 **(Licensed to Merck-Serono)**

C.5 Supervision
I have supervised **4 PhD students (plus 3 ongoing) and 6 Master students.**

2019 – 2022 **Co-supervisor of the PhD Thesis.** *Jazib Hussain*, University of Copenhagen, Denmark. Main supervisor: Prof. Eva Hoffmann
2016 – 2020 **Supervisor of the PhD Thesis.** *David Pladevall-Morera*, University of Copenhagen, Denmark.
2015 – 2019 **Supervisor of the PhD Thesis.** *Eliene Albers*, University of Copenhagen, Denmark.
2007 – 2012 **Co-supervisor of the PhD Thesis.** *Bruno Ramos-Molina*, University of Murcia, Spain. Main supervisor: Prof. Rafael Peñafiel

C.6 Reviewing activities
-Evaluator for research grants for the AIRC Foundation for cancer research, Portuguese Research Foundation, European Research Council, Spanish National Evaluation Agency, Czech Science Foundation, German-Israeli Foundation, Netherland Organization for Scientific Research, and Swiss National Research Foundation.
-Reviewer for international scientific journals (Cell Reports, Open Biology, FEBS Letter, Nucleic Acid Research, Nature Communications).
-I have participated in **16 PhD thesis assessment committees** and I have been **external evaluator** of another **4 PhD thesis**.
-I have participated in the **CSIC "ERC mentoring program"** (2022, 2023, 2024).

C.7 Honours and Awards
2020, **"Young cancer researcher Award"** from the **Danish Cancer Society**
2013, **1st Prize for the best publication** by junior scientists of the **ASEICA** Spanish Cancer Research Association.
2012, Spanish Association Against Cancer **AECC postdoctoral grant.**
2010, **"Juan de la Cierva"** postdoctoral grant from the Spanish Government.
2008, **Best PhD Award**, University of Murcia.