CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

CVA date	22/06/2024

First nama	Carles Mª		
Family name	Suñé Negre		
Gender	Male	Birth date (dd/mm/yyyy)	
DNI, NIE, passport			
Email address	csune@ipb.csic.es	URL Web	www.ipb.csic.es
Open Researcher and Contributor ID (ORCID)	0000-0002-7991-0458		

A.1. Current position

Position	Associate Professor (Investigador Científico) CSIC		
Initial date	09/06/2009		
Institution	Instituto de Parasitología y Biomedicina López Neyra (IPBLN)		
Department/Center	Molecular Biology		
Country	Spain	Phone	958181645
Keywords	Transcription, splicing, alternative splicing, RNA, RNAPII		

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

Period	Position/Institution/Country/Interruption cause
2001-2009	Assistant Professor (Científico Titular) CSIC/CNB-UAM
1999-2001	Scientific Investigator/University of Basel/Switzerland
1992-1999	Research Associate/DUMC/Durham, NC, US
1986-1992	PhD-Postdoc/CBMSO-UAM

A.3. Education

Graduate/PhD	University/Country	Year
Bachelor in Pharmacy	Univ. Barcelona	1985
PhD in Pharmacy	Univ. Barcelona	1989

Part B. CV SUMMARY

Carles Suñé is an Associate professor at IPBLN-CSIC of Granada and the head of the research group "*Formation and Function of the mRNA*" (CSIC #641279). The main scientific interest of his group focuses on the study of the molecular mechanisms that regulate transcription and processing of precursor messenger RNA (pre-mRNA) and how these processes communicate and interact for the correct control of gene expression.

His interest in molecular mechanisms that regulate gene expression began during his post-doctoral stage in Dr. Mariano Garcia-Blanco's laboratory at Duke University Medical Center (1992-1998). During this period, their efforts were dedicated to studying the transcriptional activation of HIV-1. Together with other laboratories they identified specific factors crucial for transcriptional activation and purified a human cellular factor essential for HIV-1 transcriptional regulation. Between his postdoctoral training at Duke and before assuming the role of Assistant professor at CNB, he spent two-years in clinical research and teaching related to HIV-1 at the Institute of Medical Microbiology in Basel, Switzerland, to fulfill the investment recovery requirement, a condition of his National Research Service Award (NIAID-NIH). His research during this stage focused on developing genotypic and phenotypic methods for detecting resistant variants of HIV-1, aiming to develop new diagnostic tests for antiviral resistance (now available on the market through a biotech spin-off company based in Switzerland).

In 2001, he joined the CNB-CSIC in Madrid. Since then, his research has focused on studying of the mechanisms regulating eukaryotic gene expression. His initial interest in transcription expanded to other stages of mRNA processing, particularly alternative splicing. In 2006, he moved to the IPBLN in Granada, where he continued to deepen his understanding of interactions contributing to the explanation of the functional coupling of RNAPII transcription and pre-mRNA alternative splicing for efficient and regulated gene expression under normal an pathological situations.

Currently, the research group is a reference on the functional coupling of transcription and splicing. This has been accomplished through collaborations with numerous leading research groups worldwide. The research objectives have been pursued using both classic and innovative technologies. Their initial technological development involved applying *in vitro* transcription elongation assays to study transcriptional activation by the HIV-1 Tat protein, requiring the purification of Tat using a novel methodology. Recombinant Tat protein purified using this method was sold for several years by

the spin-off company *Intronn, Inc*. (Durham, NC, US). Subsequently, other technologies were developed, such as targeting proteins to specific nuclear regions using a novel speckle periphery-targeting signal, as well as employing advanced confocal microscopy techniques, lipid nanoparticles, and other nanostructured systems. The application of nanotechnology to the study of gene expression has been an objective of his research since 2013, with particular interest in both the technological and biological aspects. Recently, our efforts in this area have focused on developing nanocarriers for the central nervous system to treat neuronal dysfunctions, making this a central line of research.
To support these efforts, he has led 18 projects as an independent investigator with public and private financial support, authored 58 peer-reviewed articles, 7 book chapters, and obtained 4 patents. Additionally, he has engaged in various public outreach activities and scientific management roles, serving on multiple selection committees and as a reviewer of research activities. He has supervised the PhD research of 10 candidates (6 in progress), many of whom have secured significant positions at universities, research institutes and private companies.

General indicators

Six-year official recognition (*sexenios*): 6 (last, 2016-2021)
H-index: 23 (Data from *Web of Science*)
Total citations: 1717 (average citations per item: 29,6)
Total citations last five years (2018-2022): 341 (average citations per year: 68,2)
H-index: 26 i10 index: 42 (Data from *Academic Google*)
Total citations: 2222 (average citations per item: 38,3)
Total citations last five years (2018-2022): 510 (average citations per year: 102)

Part C. RELEVANT MERITS

C.1. Publications (*more relevant last years; International affiliation*; Corresponding author**)*

• Narváez-Narváez DA, Duarte-Ruiz M, Jiménez-Lozano S… Suñé, C** (11/12). 2023. Comparative analysis of the physicochemical and biological characteristics of freeze-dried PEGylated cationic solid lipid nanoparticles. Pharmaceuticals 16:1583. doi: 10.3390/ph16111583.
• Vargas R, Romero M, Berasategui…Suñé C** (12/13). 2023. Dialysis is a key factor modulating interactions between critical process parameters during the microfluic preparation of lipid nanoparticles. Colloid Interface Sci Commun 54(1007109). doi: 10.1016/j.colcol.2023.100709.
• Payán-Bravo L, Fontalva S, Peñate X…Suñé C (10/13), Chávez S**. 2021. Human prefoldin modulates co-transcriptional pre-mRNA splicing. *Nucleic Acids Res*. 49:6267-6280. doi: 10.1093/nar/gkab446.
• Prieto-Sánchez S, Moreno-Castro C, Hernández-Munain C, and Suñé C**. 2020. Drosophila Prp40 localizes to the histone locus body and regulates gene transcription and development. *J. Cell Sci.* 133:jcs239509. doi: 10.1242/jcs.239509.
• Moreno-Castro C, Prieto-Sánchez S, Sánchez-Hernández N, Hernández-Munain C, Suñé C** 2019. Role for the splicing factor TCERG1 in Cajal body integrity and snRNP assembly. *J. Cell Sci.* 132:232728. doi: 10.1242/jcs.232728.
• Suñé-Pou M, Limeres MJ, Nofreiras I… Suñé C** (12/13). 2019. Improved synthesis and characterization of cholesteryl oleate-loaded cationic solid nanoparticles with high transfection efficiency for gene therapy applications. *Colloids Surf B Biointerfaces* 180:159-167. doi: 10.1016/j.colsurfb.2019.04.037.
• Pons M*, Prieto-Sánchez S, Miguel L*, Frebourg T*, Campion D*, Suñé C, Lecourtois M*/**. 2018. Identification of TCERG1 as a new genetic modulator of TDP-43 production in Drosophila. *Acta Neurophatol. Commun.* 6:138. doi: 10.1186/s40478-018-0639-5.
• Suñé Pou M, Prieto-Sánchez S, El Yousfi Y… Suñé C** (13/13). 2018. Cholesteryl oleate-loaded cationic solid lipid nanoparticles as carriers for efficient gene-silencing therapy. *Int. J. Nanomedicine. 13:3223-3233.* doi: 10.2147/IJN.S158884.
• Muñoz-Cobo JP, Sánchez-Hernández N, Gutiérrez S, El Yousfi Y, Montes M, Gallego C, Hernández-Munain C, Suñé C**. 2017. Transcriptional elongation regulator 1 affects transcription and splicing of genes associated with cellular morphology and cytoskeleton dynamics and is required for neurite outgrowth in neuroblastoma cells and primary neuronal cultures. *Mol. Neurobiol.* 54:7808-7823 doi: 10.1007/s12035-016-0284-6.
• Sánchez-Hernández N, Boireau S*, Schmidt U*, Muñoz-Cobo JP, Hernández-Munain, C, Bertrand E*, Suñé C**. 2016. The in vivo dynamics of TCERG1, a factor that couples transcriptional elongation with splicing. *RNA* 22:571-582, doi: 10.1261/rna.052795.115.
• Becerra, S, Andrés-León, E. Prieto-Sánchez, S, Hernández-Munain, C, Suñé, C** 2016. Prp40 and early events in splice site definition. Wiley Interdiscip. Rev. RNA 7:17-32, doi:10.1002/wrna.1312.

C2. Congresses(selection, last years)

International: 36 poster and 22 oral communications. National: 21 poster and 29 oral communications

• Jiménez-Lozano, S…Suñé, C. (7/7). PRPF40 proteins as potential markers of pancreatic cancer. X RinoRed. 2024. Bilbao, España.

• Vargas, R… Suñé, C. and Suñé-Pou. Preparing for blood-brain barrier penetration: a study on the preparation of peptide-functionalized lipid nanoparticles for the treatment of brain diseases. 2024. PBP World Meeting. Viena, Austria.

• Vargas, R…Suñé, C, and Suñé-Pou, M. (8/9). Formulación de nanopartículas lipídicas para la vehiculización de siRNA para el silenciamiento de TCERG1 en células HEK293T. XVI Congreso Sociedad Española de Farmacia Industrial y Galénica (SEFIG). 2023. Madrid, España

• Duarte-Ruíz, M.…Suñe, C (7/7). PRPF40B interacts with the epigenetic modifier Polycomb repressive complex PRC2. IX RiboRed. 2022. Madrid, España

•Vargas, R…Suñé, C and Suñé-Pou, M. (9/10). Lipid nanoparticles functionalization strategies to cross the blood-brain barrier. NanoBio&Med. 2022. Barcelona, España.

• Narváez-Narváez, D…Suñé, C., and Suñé-Pou, M. (8/9). Effect of temperature, vacuum, and process duration on the freeze-dry of PEGylated solid lipid nanoparticles. NanoBio&Med. 2022. Barcelona, España

• Vargas, R…Suñé, C, and Suñé-Pou (9/10). Critical process parameters identification of the LNP microfluidic manufacturing process for siRNA delivery. 13th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology. 2022. Rotterdam, Holanda.

• Moreno-Castro, C…and Suñé, C. (5/5). Investigating the roles of TCERG1 and PRPF40B in transcription and RNA splicing. IV Meeting Red Temática RNA Life. 2021. Sevilla, España.

• El Yousfi, Y…Suñe, C. (7/7). Role of pre-mRNA processing factor 40 homolog B (PRPF40B) as a transcription factor in neuroblastoma cells. I Congreso de Investigadores del PTS. 2019. Granada, España

• Suñé-Pou… Suñé, C. (12/12). Characterization of cholesteryl oleate-loaded cationic solid lipid nanoparticles for the targeted delivery of nucleic acids. IPAP18. 2018. Salamanca, España.

C.3. Research projects (*Total as PI, 18; PI in IPBLN: Carles Suñé*)

• "Role of PRPF40B in nervous system and in Huntington Disease (nerv40B)" (PID2020-118859GB-100). Ministerio de Ciencia e Innovación. 01/09/2021 – 31/08/2024. IPBLN. 157.300 €

• "PRPF40B: Un regulador epigenético en la enfermedad de Huntington" (PY20_01269). Junta de Andalucía. 23/06/2021 – 08/06/2023. IPBLN-CSIC. 84.800 €

• "Efecto de la modificación m6A del RNA del SARS-CoV-2 en su ciclo biológico e infectividad" (CV20-13423). Junta de Andalucía (Proyectos de Investigación sobre el SARS-CoV-2 y la enfermedad COVID-19). 08/09/2020 - 07/03/2022. IPBLN. 96.000 €

• "RNA Life II: La vida del RNA desde la transcripción a la degradación". Red de Excelencia Temática (RED2018-102467-T). Ministerio de Ciencia, Innovación y Universidades. 01/01/2020 – 31/12/2022. PI: José E. Pérez (Univ. Valencia) 22.000 €

• "Defining mechanisms coupling transcription to splicing linked to neurodegenerative disorders" (BFU2017-89179-R). Ministerio de Economía, Industria y Competitividad. 01/01/2018 - 31/12/2020. IPBLN-CSIC. 136.730 €

• "PRPF40B, disease model development and systemic phenotyping" (2017_P000154). Infrafrontier I3 (European Union). 01/06/2017 – in progress. IPBLN-CSIC/ICS-Montpellier. 50.000 €

• "RNA Life". Red de Excelencia Temática (BFU2015-71978-REDT). Ministerio de Economía y Competitividad. 01/01/2015 – 31/12/2018. PI: Susana Rodríguez Navarro (CIPF)

• "Acoplamiento funcional entre la transcripción y el splicing" (BFU2014-54660-R). Ministerio de Economía y Competitividad. 01/01/2015 – 31/12/2017. IPBLN. 169.400 €

• "Regulación del splicing cotranscripcional en genes de procesos biológicos esenciales" (BIO-2515). Junta de Andalucía (Proyectos de Excelencia 2012). 16/05/2014–16/02/2019. IPBLN. 189.894 €

• "Acoplamiento de la transcripción y el splicing alternativo de los pre-mRNAs" (BFU2011-24577). Ministerio de Economía y Competitividad. 01/01/2012 – 31/12/2014. IPBLN. 140.360 EUR

C4. Participation in technology/knowledge transfer activities and explotation

C.4.1 Patents and technology transfer *(Nº patents: 4; other: 3)*

• C. Suñé, N. Sánchez-Hernández, C. Hernández-Munain, and M. Sánchez-Álvarez. Secuencia de localización a la periferia de los speckles nucleares. P201131907. 25/11/2011. CSIC.

• M.A. Garcia-Blanco, and C. Suñé. Tat coactivator: human protein required for HIV-1 gene activation by Tat. DUMC 681-6412. EEUU. 09/10/1995.

• J.P. Duran, L. Enjuanes, J.M. Torres, C.M. Sánchez, C. Smerdou, and C. Suñé. Adenovirus recombinantes que expresan antigenos del virus de la gastroenteritis porcina transmisible (VGPT) y su empleo en la formación de vacunas. 9502370. 30/11/1995. CSIC and Cyanamid Iberica, S.A. Spain.
• L. Enjuanes, M.P. Melgosa, G. Jiménez, I. Correa, M.J. Bullido, C. Suñé, and C. Sánchez. Selección de hibridomas productores de anticuerpos monoclonales contra el virus de la gastroenteritis porcina transmisible y método de purificación del virus para el diagnóstico de anticuerpos contra el mismo. 8800331. 05/02/1988. CSIC and Ingenasa, Spain
• Participation in the creation of the spin-off company Intronn, Inc. Durham, NC, US. 1998-2000.
• Antibodies generated against the human CA150 protein were sold by numerous companies worldwide (Santa Cruz Biotec., BD Biosciences…). Recombinant Tat protein was sold by Intronn Inc.
• Participation in new diagnostic phenotypic test of HIV-1 antiviral resistance (InPheno AG, Basel).

C.4.2. Thesis supervised *(Total: 10)*

• *Cristina Moreno Castro*. Universidad de Granada. 31/01/2020 • *Marc Suñé Pou*. Universidad de Barcelona. 12/07/2019 • *Juan Pablo Muñoz-Cobo Belart*. Universidad de Granada. 24/04/2017 • *Anna Fàbregas Fernàndez*. Universidad de Barcelona. 3/11/2015 • *Soraya Becerra Ortíz*. Universidad de Granada. 26/02/2015 • *Noemí Sánchez Hernández*. Universidad de Granada. 13/03/2013 • *Marta Montes Resano*. Universidad de Granada. 15/06/2012 • *Carolina Carrillo Sánchez*. Universidad de Barcelona. 22/12/2011 • *Miguel Sánchez Álvarez*. Universidad Autónoma de Madrid. 9/05/2009 • *Inmaculada Montanuy Sellart*. Universidad Autónoma de Madrid. 28/10/2008.

C.4.3. University teaching

• Course name: "Metodología en Biología Celular y Molecular". Departamento de Bioquímica, Biología Molecular e Inmunología. Univ. de Granada. 2005-present. Quality mention.
• Course name: "Secuenciación Automática de ADN". Departamento de Bioquímica de la Facultad de Ciencias Biosanitarias de la Universidad Francisco de Vitoria de Madrid. 2003-2005

C.4.4. Science dissemination and knowledge promotion activities

• Organizer of the *Cycle Seminars in Biomedicine* of the IPBLN-CSIC. 2006-2022
• Organizer of the *Work In Progress* of the IPBLN-CSIC: 2008-2022
• Scientific reviewer for "Ventanas a la Ciencia", Parque de las ciencias de Granada. 2009-present
• Speaker in "*Café con Ciencia"* in the framework of "Semana de la Ciencia" organized by the Descubre Foundation. 2015-present
• Speaker in "*Jornadas de Bioquímica y Biología Molecular para estudiantes de la Facultad de Ciencias de la Universidad de Granada*" 2014/2015
• Tutor of the research work entitled "¿las neuronas tienen esqueleto?" Proyecto PIIISA para la Iniciación en Investigación e Innovación en Secundaria en Andalucía. 2016/2017
• Speaker in "*Jornada de Puertas Abiertas del Parque Tecnológico de Ciencias de la Salud de Granada*". 2018
• Scientific advisor in "Talleres científicos de la Iª Jornada de Medioambiente y Sostenibilidad", Facultad de Ciencias, UGR. 2019
• Many interviews on television and newspapers to talk about the Wuhan coronavirus infection. 2020-2022.

C.4.5. Management data and other scientific activities

• Coordinator of the DNA Sequencing Service of the Functional Genomics Units of the CNB-CSIC. 2001-2006.
• Organizer of the XI National Congress of Virology. Granada. 2010.
• Chairman of the Departament of Molecular Biology of IPBLN-CSIC, 2014-2018
• Reviewer for: EU (MSCA-PF), State Research Agency (AEI, previously ANEP), Foundation for Innovation and Prospective in Health in Spain FIPSE, University and Research Grants Agency (AGAUR, Spain), Wellcome Trust (UK), National Agency for Scientific, Technological and Innovation Promotion (Argentina), National Science Center (Poland); National Research Agency (France); Israel Science Foundation (ISF); National Research Foundation (Singapur).
• Reviewer for: Cell Reports, Nucleic Acids Research, EMBO Reports, Journal of Cell Science, RNA, Scientific Reports, Molecular and Cellular Biology, Journal of Molecular Biology, Oncotarget, Retrovirology, Virus Research, ISRN Virology, Journal of Medical Virology, and many others.

C.5. Honors

1998-1999: Fellowship and starting grant from the NIAID/NIH. Program: Research training in AIDS
2004: Corresponding Academic of the Royal Academy of Pharmacy of Catalonia.