Date of the CVA	02/03/2018

Section A. PERSONAL DATA

Name and Surname	Miguel F. Segura Ginard		
DNI	43104912z	Age	41
Researcher's identification number	Researcher ID	J-4749-2013	
	Scopus Author ID		
	ORCID	00-0003-0916-3618	

A.1. Current professional situation

Institution	FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON			
Dpt. / Centre	Unidadde Investigacion Traslacional en el Cáncer de la Infancia y Adolescencia / Institut de Recerca Vall d'Hebron			
Address	Passeig Vall d'Hebron 119-129, Edificio Collserola. Laboratorio 207, 08035, Barcelona			
Phone	(34) 652863940	Email	miguel.segura@vhir.org	
Professional category	Investigador Miguel Servet II		Start date	2017
UNESCO spec. code	241500 - Molecular biology; 320713 - Oncology			
Keywords	Laboratoy animals; Tissue preservation; Cell culture; Tissue culture; Histology; Cell biology; Gene therapy			

A.2. Academic education (Degrees, institutions, dates)

Bachelor/Master/PhD	University	Year
Molecular Biology	University of Lleida	2006
Bachelor of Science, Biochemistry	University of Illes Balears	2000

A.3. General quality indicators of scientific production

In March 2018, the general quality indicators are:

- I am author of 46 peer-reviewed publications (10 as corresponding author) with an accumulated impact factor of 331.23 (source Journal Citation Reports 2015) , and an average of 7.48 per publication. The total number of citations is > 1900 (source Scopus).
- The h-index is 22, with 13 publications with more than 50 citations and of those, 5 publications with more than 100 citations.
- I am principal investigator of national and international projects.
- I am a grant reviewer for ANEP and European Commission (Expert # EX2006C200574) and for 12 different scientific journals.
- I have been a director of two finished doctoral thesis (both with cum laude) and currently supervising two postdocs and four PhD students.

Section B. SUMMARY OF THE CURRICULUM

In 2000, I graduated in Biochemistry from the University of Illes Balears, in Mallorca, Spain. After obtaining my PhD in molecular neurobiology from the University of Lleida, I joined the Department of Pathology at the NYU School of Medicine, New York (USA) in 2007. In that period, I had the opportunity covered most of the technical and conceptual aspects of the microRNA research field, i.e. the discovery of their function, target analysis, expression regulation, use as biomarkers and feasibility as therapeutic tools. In the last two years, I expanded my research interest to other epigenetic factors such as chromatin regulators. In 2012, I was recruited to the Vall d'Hebron Research Institute to apply my scientific expertise to the field of pediatric cancer, a topic with clear disadvantages compared to adult tumors and in the need for new therapeutic approaches.

Pediatric tumors of the nervous system are the most common solid malignancies of childhood cancer and the leading cause of cancer-related deaths in children. Current multimodal therapies and the advent of immunotherapies have raised the overall survival rate from less than 40% in the 70's to the present 80%. However, there are still 20% of patients who do not respond to current therapies and, of those who do respond, one third will have to live with severe treatment-associated side effects.

In the last five years and under the Miguel Servet I program, I set up different research lines aimed at improving the outcome of patients with pediatric solid tumors of the nervous sytem. The main goal of my laboratory is to implement the use of **epigenetic therapies**, i.e., therapies against modulators of gene expression which, in turn, regulate several genes, pathways or cellular processes.

In 2017, I obtained the tenure position (Miguel Servet II program) and I am now the Head of the Laboratory of Neural Tumours. I am an author of 46 peer-reviewed publications with an accumulated impact factor of 331.23, and an average of 7.48 per publication (source JCI 2015). The total number of citiations is 1942 (source Scopus) or 2085 (Researchgate). My H-index is 22, with 13 publications with more than 50 citations and 5 publications with more than 100 citations. In the field of pediatric cancer and 2012, I have participated in 8 competitive-funded national grants (5 as principal investigator), 2 international grants (1 as a principal investigator) and I am inventor of three patents.

This approach is unique in my host institution and also in the rest of the country. It is important to mention that we are part of the Pediatric Oncology Unit of the Vall d'Hebron, with access to a large number of frozen and paraffin-embedded tumor samples with available clinico-pathologic parameters. Furthermore, the unit is present in almost all international pediatric oncology consortia (SEHOP, SIOP, ITCC, SIOPEN R NET, EPSSG, EURAMOS, European HD, EWOG-MDS, Euro-Ewing, I-BFM, LCH trials, NHL, EBMT Pediatric Committee, ITCC consortium) which provide the relationships necessary to translate our laboratory findings into clinical trials at European level.

Section C. MOST RELEVANT MERITS (ordered by typology)

C.1. Publications

1 **Scientific paper**. H Dopeso; et al. 2017. Mechanisms of inactivation of the tumour suppressor gene RHOA in colorectal cancer.British Journal of Cancer. In press.
2 **Scientific paper**. Ana Almazán-Moga; et al. 2017. Ligand-dependent Hedgehog pathway activation in Rhabdomyosarcoma: the oncogenic role of the ligands.British Journal of Cancer. 117-(9), pp.1314-1325.
3 **Scientific paper**. A Feliciano; et al. 2017. miR-99a reveals two novel oncogenic proteins E2F2 and EMR2 and represses stemness in lung cancer.Cell Death and Disease. 8-(10), pp.e3141.
4 **Scientific paper**. L Sánchez-Cid; et al. 2017. MicroRNA-200, associated with metastatic breast cancer, promotes traits of mammary luminal progenitor cells.Oncotarget. 8-(48), pp.83384-83406.
5 **Scientific paper**. Luz Jubierre; et al. 2017. Krüppel-like factor 4 (KLF4) regulates the miR-183~96~182 cluster under physiologic and pathologic conditions Oncotarget. Feb 17-In press, pp.1-14.
6 **Scientific paper**. Ana Almazán-Moga; et al. 2017. Hedgehog Pathway Inhibition Hampers Sphere and Holoclone Formation in Rhabdomyosarcoma Stem Cells International. 2017, pp.7507380.
7 **Scientific paper**. Sofía Torres; et al. 2017. Combined miRNA profiling and proteomics demonstrates that different miRNAs target a common set of proteins to promote colorectal cancer metastasis.Journal of Pathology. Jan 5.
8 **Scientific paper**. Jingyi Yu; et al. 2016. MicroRNA-182 Targets SMAD7 to Potentiate TGFβ-Induced Epithelial-Mesenchymal Transition and Metastasis of Cancer Cells Nature Communications. Nature Publishing Group.

9 **Scientific paper**. Patricia Zarzosa; et al. 2016. Patient-derived xenografts for childhood solid tumors: a valuable tool to test new drugs and personalize treatments.Clinical and Translational Oncology. Oct7-Ahead of print.
10 **Scientific paper**. Laura Planells-Ferrer; et al. 2016. FAIMs: more than death-receptor antagonists in the nervous system Journal of Neurochemistry. Wiley Online Library. In press.
11 **Scientific paper**. Luz Jubierre; et al. 2016. BRG1/SMARCA4 is essential for neuroblastoma cell viability through modulation of cell death and survival pathways.Oncogene. Mar-21.
12 **Scientific paper**. Aroa Soriano; et al. 2016. MicroRNA-497 impairs the growth of chemoresistant neuroblastoma cells by targeting cell cycle, survival and vascular permeability genes.Oncotarget. Jan-25.
13 **Scientific paper**. Antonio Barbáchano; et al. 2015. SPROUTY-2 represses the epithelial phenotype of colon carcinoma cells via upregulation of ZEB1 mediated by ETS1 and miR-200/miR-150 Oncogene. Oct-12.
14 **Scientific paper**. Ariadna Boloix; et al. 2015. Novel micro RNA-based therapies for the treatment of neuroblastoma Anales de Pediatría. Aug-28.
15 **Scientific paper**. Chiara Vardabasso; et al. 2015. Histone variant H2A.Z.2 mediates proliferation and drug sensitivity of malignant melanoma Molecular Cell. Cell Press. Aceptado-15 Abril.
16 **Scientific paper**. H Harvey; et al. 2015. Modulation of chemotherapeutic drug resistance in neuroblastoma SK-N-AS cells by the neural apoptosis inhibitory protein and miR-520f.International Journal of Cancer. 136-7, pp.1579-1588.
17 **Scientific paper**. Koen M.O. Galenkamp; et al. 2015. TNFα sensitizes neuroblastoma cells to FasL-, cisplatin- and etoposide induced cell death by NFκB-mediated expression of Fas Molecular Cancer. BioMed Central. 14(1)-62, pp.1-14.
18 **Scientific paper**. Doug Hanniford; et al. 2015. Identification of metastasis-suppressive microRNAs in primary melanoma JNCI-Journal of the National Cancer Institute. OXFORD UNIV PRESS INC. 107-(3). ISSN 0027-8874.
19 **Scientific paper**. Laura Planells-Ferrer; et al. 2014. MYCN repression of Lifeguard/FAIM2 enhances neuroblastoma aggressiveness Cell Death & Disease. Nature Publishing Group. Sep-5, pp.e1401.
20 **Scientific paper**. Ana Almazan-Moga; et al. 2014. Optimization of rhabdomyosarcoma disseminated disease assessment by flow cytometry Cytometry A. In press.
21 **Scientific paper**. Rana S. Moubarak; et al. 2013. FAIM-L is an IAP-binding protein that inhibits XIAP ubiquitinylation and protects from Fas-induced apoptosis.Journal of Neuroscience. 33-(49), pp.19262-19275.
22 **Scientific paper**. Katherin E. O' Reilly; et al. 2013. Hedgehog pathway blockade inhibits melanoma cell growth in vitro and in vivo.Pharmaceuticals (Basel). 6-(11), pp.1429-1450.
23 **Scientific paper**. Miguel F. Segura#*; et al. 2013. BRD4 sustains melanoma proliferation and represents a new target for epigenetic therapy Cancer Research. 73-20, pp.6264-6276.
24 **Scientific paper**. Aroa Soriano; et al. 2013. microRNAs as pharmacological targets in cancer Pharmacological Research. 75-2013, pp.3-14.
25 **Scientific paper**. Maria V. Guijarro; et al. 2013. Dual Pten/Tp53 suppression promotes sarcoma progression by activating Notch signaling American Journal of Pathology. 182-6, pp.2015-2027.
26 **Book chapter**. Josep Roma; et al. 2014. miRNA-Targeted Therapies in the Most Prevalent Solid Tumors MicroRNA Targeted Cancer Therapy. Springer International Publishing. 2014, pp.239-263. ISBN 978-3-319-05134-5.
27 **Review**. Luz Jubierre; et al. 2018. Targeting of epigenetic regulators in Neuroblastoma Experimental and Molecular Medicine.

C.2. Participation in R&D and Innovation projects

1 ESTRATEGIAS PARA MODULAR BRG1 COMO NUEVA TERAPIA PARA EL NEUROBLASTOMA (FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON). 01/01/2018-31/12/2020. 147.620 €.

2 SYNAPTIC PROTEIN INTERVENTION FOR EPENDYMOMA (SPINE) Roberta Antonelli. (FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON). 01/03/2018-28/02/2019. 35.000 €.
3 microRNA-based nanotherapy: New treatment for pediatric tumors of the nervous system Instituto de Salud Carlos III. (FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON). 01/01/2015-31/12/2017. 116.765 €.
4 Personalized therapy against ERK5 in Neuroblastoma Asociación Española Contra el Cáncer. (FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON). 31/01/2015-31/03/2017. 20.000 €.
5 Grant for Emerging Research Group of Catalonia Agency for Management of University and Research Grant (AGAUR). (FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON). 01/01/2014-31/12/2016. 30.000 €.
6 New epigenetic therapy for high-risk neuroblastoma Comisión Europea. Marie Curie Career Integration Grant. Miguel F. Segura Ginard. (FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON). 2013-2016. 100.000 €.
7 Red Temática de Investigación Cooperativa en Cáncer (RTICC) Instituto de Salud Carlos III. Red Temática de Investigació Cooperativa en Cácer. José Sánchez de Toledo Codina. (FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON). 2013-2016. 176.000 €.
8 Epigenetic therapy for high-risk Neuroblastoma Asociación Española contra el Cáncer-Junta de Barcelona. Ayudas a la Investigacion en Oncología. Miguel F. Segura Ginard. (FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON). 2013-2014. 18.000 €.
9 Functional Role of microRNA in High-Risk Neuroblastoma Instituto de Salud Carlos III. Miguel Servet. Miguel F Segura Ginard. (FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON). 2012-2014. 120.000 €.
10 Joint Action Rare Cancer European Union. (FUNDACIO INSTITUT DE RECERCA DE L'HOSPITAL UNIV. VALL D'HEBRON). From 21/03/2016.

C.3. Participation in R&D and Innovation contracts

1 Development of epigenetic therapies for the treatment of neuroblastoma Fundación ACUNAPATATA. Miguel F. Segura Ginard. 11/02/2016-11/02/2019.
2 Study of the therapeutic potential of ABTL0182 in pediatric solid tumors Ability Pharma. Miguel F. Segura Ginard. From 30/01/2014.
3 Epigenetic therapies for pediatric tumors of the nervous system Fundación Familiares y Amigos de Ángel Manzanares (FADAM). Miguel F. Segura Ginard. 01/01/2013-P3Y. 48.000 €.

C.4. Patents

1 José A Alfón; Héctor Pérez; Miguel F Segura; José Miguel Lizcano. 17382282.6 1456. A pharmaceutical combination for the treatment of cancer Spain. 09/08/2017. Ability Pharmaceuticals SL.
2 Eva Hernando; Moshe Hoshen; Iman Osman; Avital Gaziel-Sovran; Miguel F Segura. Compositions and Methods for treatments of melanoma United States of America. 13/04/2011. New York University.
3 Eva Hernando; Miguel F Segura; Douglas Hanniford; Silvia Menendez. Compositions and Methods for diagnosing and treating melanoma United States of America. 24/03/2008. New York University.