Date of the CVA	16/09/2020

Section A. PERSONAL DATA

Name and Surname	Sonia Guedan Carrio			
DNI	39372218J		Age	40
Researcher's identification number	Researcher ID	O-9645-2018		
	Scopus Author ID	25633706400		
	ORCID	0000-0002-9605-0760		

A.1. Current professional situation

Institution	Institut d'Investigacions Biomèdiques August Pi i Sunyer			
Dpt. / Centre	Hematology and Oncology / Hospital Clínic			
Address	C/Rossello, 149-153, 2nd floor, 08036, Barcelona			
Phone	(0034) 664316581	Email	sguedan@clinic.cat	
Professional category	Principal Investigator		Start date	2018
UNESCO spec. code	240902 - Genetic engineering; 241200 - Immunology; 320713 - Oncology			
Keywords	Biomedicine; Biological engineering			

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

Bachelor/Master/PhD	University	Year
PhD in Biotechnology	University of Barcelona	2009
Bachelor of Pharmacy	University of Barcelona	2003

A.3. General quality indicators of scientific production

Total publications (including original research articles, review articles, book chapters, comments and abstracts): 48; Total original research articles: 16; Total reviews: 5; Publications in D1: 68%; Publications in Q1: 81%; Total publications as main author (first or last): 13; Publications as corresponding author: 8; Total citations: 1224, 306 citation in 2019; h-index: 17. Total published abstracts > 20. Total published book chapters: 2. Search performed on September 2, 2020 (WoS).

Section B. SUMMARY OF THE CURRICULUM

During the past 16 years, I have focused on developing effective gene and cell-based therapies for the treatment of cancer. During my PhD, I designed an oncolytic adenovirus able to degrade the extracellular matrix of solid tumors. The results from this work led to a well-cited publication in the field of virotherapy (Guedan, Molecular Therapy, 2010), and to the filing of a patent that was used to create a new company, VCN Biosciences. Their first clinical candidate was based on the results generated during my PhD and is now being tested in two clinical trials for the treatment of cancer (NCT02045589, NCT03284268). I next moved to the University of Pennsylvania to develop new CAR-T cell therapies for the treatment of solid tumors, first as a Marie Curie Fellow, under the supervision of Dr. Carl June; and later as senior scientist, leading part of the June lab. During these years, I explored the effect of various costimulatory and transmembrane domains of CARs on the persistence and effector functions of various lymphocyte subsets (Guedan, JCI, 2020; Guedan, JCI Insight 2018, Guedan, Blood 2014). I also explored the combination of CAR-T cells with oncolytic adenoviruses expressing immune stimulating molecules, with the goal of enhancing the trafficking, activation and potency of CAR-T cells (Wing, Cancer Immunology Research 2018 - Best of AACR Journals 2018- and Watanabe, JCI Insight 2018). I am the first author of four review articles published in Q1 journals, including Annual Review in Immunology (Guedan, 2019). My leadership in the above mentioned projects justified my signature as corresponding author in eight of the articles published after my PhD studies. I am the inventor in four patents developed at the University of Pennsylvania and licensed to Novartis, which indicates my contribution in the conception of the inventions. Because of my achievements, I have been invited to present at

more than 20 national and international conferences (including ESMO 2019 and EHA 2020) and research centers, to teach at Universities, to write commentary articles (Guedan et al. CCR 2019), to review articles for journals (including JCI and Science Translational Medicine, see publons.com/a/1550931), and to participate in the review process of grants, abstracts and posters at international conferences (i.e. ESGCT and ASGCT) and to chair sessions at international meetings (i.e. ESGCT and ICLE). I am also a Review Editor for Frontiers in Immunology and Frontiers in Oncology (Q1) and a board member of the Spanish Society for Gene and Cell Therapy (SETGyC). On May 2018, I was recruited by IDIBAPS to lead a CAR-T cell program for the treatment of solid tumors. Here, I supervise a postdoctoral researcher, two research technician and three PhD students. I am currently a Ramon y Cajal Fellow (a highly prestigious 5-year tenure-track fellowship by the Spanish Government).

Section C. MOST RELEVANT MERITS (ordered by typology)

C.1. Publications

1 **Scientific paper**. Guedan, S.; Madar, A.; Casado Medrano, V.; et al. (9/1). 2020. Single residue in CD28-costimulated CAR T cells limits long-term persistence and antitumor durability.The Journal of Clinical Investigation (IF=11.864, D1). 130-6, pp.3087-3097. ISSN 1558-8238.

2 **Scientific paper**. Guedan, S; Posey, AD; Shaw, C; et al. (17/1). 2018. Enhancing CAR T cell persistence through ICOS and 4-1BB costimulation.JCI Insight (IF=6.205, D1). 3-1. ISSN 2379-3708.

3 **Scientific paper**. Wing A; Fajardo CA; Posey AD...[et al.]. (9/9). 2018. Improving CART-Cell Therapy of Solid Tumors with Oncolytic Virus-Driven Production of a Bispecific T-cell Engager.Cancer Immunol Res (IF=8.728, D1). Best of AACR Journals 2018.6(5), pp.605-616. ISSN 2326-6066.

4 **Scientific paper**. Uribe-Herranz M; Bittinger K; Rafail S; Guedan S...[et al.]. (13/4). 2018. Gut microbiota modulates adoptive cell therapy via CD8? dendritic cells and IL-12.JCI Insight (IF=6.205, D1). 3-4.

5 **Scientific paper**. Watanabe K; Luo Y; Da T... [et al.]. (15/4). 2018. Pancreatic cancer therapy with combined mesothelin-redirected chimeric antigen receptor T cells and cytokine-armed oncolytic adenoviruses.JCI Insight (IF=6.205, D1). 3-7.

6 **Scientific paper**. Fajardo CA; Guedan S; Rojas LA...[et al.]. (8/2). 2017. Oncolytic adenoviral delivery of an EGFR-targeting T cell engager improves antitumor efficacy.Cancer Research (IF=9.727, D1). 77(8), pp.2052-2063. ISSN 0008-5472.

7 **Scientific paper**. Kawalekar O; O'Connor R; Fraietta J...[et al.]. (14/8). 2016. Distinct Signaling of Coreceptors Regulates Specific Metabolism Pathways and Impacts Memory Development in CAR T Cells.Immunity (IF=22.553, D1). 44(2), pp.380-390. ISSN 1074-7613.

8 **Scientific paper**. Frigault, Matthew J; Lee, Jihyun; Basil, Maria; et al. (19/8). 2015. Identification of chimeric antigen receptors that mediate constitutive or inducible proliferation of T cells.Cancer Immunology Research (IF=8.728, D1). 3-4, pp.356-367. ISSN 2326-6066.

9 **Scientific paper**. Guedan, Sonia; Chen, XI; Madar, Aviv...[et al.]. (12/1). 2014. ICOS-based chimeric antigen receptors program bipolar T(H)17/T(H)1 cells Blood (IF=17.543, D1). 124(7), pp.1070-1080. ISSN 0006-4971.

10 **Scientific paper**. Guedan, S; Grases, D; Rojas, J J...[et al.]. (9/1). 2012. GALV expression enhances the therapeutic efficacy of an oncolytic adenovirus by inducing cell fusion and enhancing virus distribution Gene Therapy (IF=4.128, Q2). 19(11), pp.1048-1057. ISSN 09697128.

11 **Scientific paper**. Rojas, Juan J; Guedan, Sonia; Searle, Peter F...[et al.]. (8/2). 2010. Minimal RB-responsive E1A Promoter Modification to Attain Potency, Selectivity, and Transgene-arming Capacity in Oncolytic Adenoviruses.Molecular Therapy (IF=8.986, D1). 18(11), pp.1960-1971. ISSN 15250016.

12 **Scientific paper**. Guedan, Sonia; Jose Rojas, Juan; Gros, Alena...[et al.]. (6/1). 2010. Hyaluronidase Expression by an Oncolytic Adenovirus Enhances Its Intratumoral Spread and Suppresses Tumor Growth.Molecular Therapy (IF=8.986, D1). 18(7), pp.1275-1283. ISSN 15250016.

13 **Scientific paper**. Gros, Alena; Puig, Cristina; Guedan, Sonia...[et al.]. (6/3). 2010. Verapamil Enhances the Antitumoral Efficacy of Oncolytic Adenoviruses.Molecular Therapy (IF=8.986, D1). 18(5), pp.903-911. ISSN 15250016.

14 **Scientific paper**. Rojas, J J; Cascallo, M; Guedan, S...[et al.]. (7/3). 2009. A modified E2F-1 promoter improves the efficacy to toxicity ratio of oncolytic adenoviruses.Gene Therapy (IF=4.128, Q2). 16(12), pp.1441-1451. ISSN 09697128.

15 **Scientific paper**. Gros, Alena; Martinez-Quintanilla, Jordi; Puig, Cristina...[et al.]. (7/4). 2008. Bioselection of a Gain of Function Mutation that Enhances Adenovirus 5 Release and Improves Its Antitumoral Potency.Cancer Research (IF=9.727, D1). 68(21), pp.8928-8937. ISSN 00085472.

16 **Scientific paper**. Guedan, S; Gros, A; Cascallo, M...[et al.]. (6/1). 2008. Syncytia formation affects the yield and cytotoxicity of an adenovirus expressing a fusogenic glycoprotein at a late stage of replication.Gene Therapy (IF=4.128, Q2). 15(17), pp.1240-1245. ISSN 09697128.

17 **Book chapter**. Rodriguez Garcia, A.; Watanabe, K.; Guedan, S.(3/3). 2020. Analysis of Antitumor Effects of CAR-T Cells in Mice with Solid Tumors.Methods in Molecular Biology. 2086, pp.251-271. ISSN 1940-6029.

18 **Book chapter**. Calderon, H.; Mamonkin, M.; Guedan, S.(3/3). 2020. Analysis of CAR-Mediated Tonic Signaling.Methods in Molecular Biology. 2086, pp.223-236. ISSN 1940-6029.

19 **Review**. Alba Rodriguez-Garcia; Asis Palazon; Estela Noguera-Ortega; et al. (5/5). 2020. CAR-T cells hit the tumor microenvironment: strategies to overcome tumor escape.Frontiers in Immunology (IF=5.085, Q1). ISSN 1664-3224.

20 **Review**. Guedan, Sonia; Ruella, Marco; June, Carl H.(3/1). 2019. Emerging Cellular Therapies for Cancer.Annual Review of Immunology (IF=19.9, D1). 37-1. ISSN 1545-3278.

21 **Review**. Guedan, Sonia; Calderon, Hugo; Posey, Avery D.; et al. (4/1). 2019. Engineering and Design of Chimeric Antigen Receptors.Molecular Therapy - Methods & Clinical Development (IF=4.533, Q1). 12, pp.145-156. ISSN 2329-0501.

22 **Review**. Guedan, Sonia; Alemany, Ramon. (2/1). 2018. CAR-T Cells and Oncolytic Viruses: Joining Forces to Overcome the Solid Tumor Challenge.Frontiers in Immunology (IF=5.085, Q1). 9, pp.2460-2460. ISSN 1664-3224.

23 **Review**. Alena Gros; Sonia Guedan. (2/2). 2010. Adenovirus release from the infected cell as a key factor for adenovirus oncolysis.Open Gene Therapy Journal. 3, pp.24-30.

24 **CCR Translations**. Sonia Guedan; Julio Delgado. (2/1). 2019. Immobilizing a moving target: CAR T cells hit CD22.Clinical Cancer Research (IF=10.107, D1). 25-17, pp.5188-5190.

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

1 945393-2, Accelerating Development and Improving Access to CAR and TCR-engineered T cell therapy (T2EVOLVE). Innovative Medicine Initiative. IMI2-RIA. (Institut d'Investigacions Biomèdiques August Pi i Sunyer). 01/12/2020-30/11/2025. 510.688,75 €. Principal investigator.

2 Ayudas para contratos Ramon y Cajal 2018. Ministerio de Ciencia e Innovación. Universidades. Sonia Guedan. (Institut d'Investigacions Biomèdiques August Pi i Sunyer). 01/05/2020-30/04/2025. 308.600 €. Principal investigator.

3 CAR-T cells as drug delivery agents for the treatment of solid tumors Asociación Española Contra el Cáncer. (Institut d'investigacions Biomediques August Pi i Sunyer). 01/10/2020-30/09/2023. 300.000 €.

4 Exhaustion-resistant Chimeric Antigen Receptor (CAR)-modified T cells for the treatment of solid tumors. Gilead. Sonia Guedan. (Institut d'Investigacions Biomèdiques August Pi i Sunyer). 01/08/2020-01/08/2023. 250.000 €. Principal investigator.

5 Chimeric Antigen Receptor (CAR)-modified T cells for the treatment of solid tumours. PID2019-109546RA-I00. Ministerio de Ciencia, Innovación y Universidades. Sonia Guedan. (Institut d'Investigacions Biomèdiques August Pi i Sunyer). 01/06/2020-31/05/2023. 163.350 €.
6 839566, Exhaustion-resistant CAR-T cells for the treatment of solid tumors. European Comission. H2020-MSCA-IF-2018. Sonia Guedan. (Institut d'Investigacions Biomèdiques August Pi i Sunyer). 01/06/2019-30/05/2021. 160.932 €. Principal investigator.
7 275139, Use of adoptive T cell transfer in combination with oncolytic adenoviruses. European Comission. FP7-PEOPLE-2010-IOF. Sonia Guedan. (Institut d'Investigació Biomèdica de Bellvitge (IDIBELL)). 01/05/2011-31/08/2015. 223.669 €.
8 Novel Adjuvants for Cancer Vaccine Immunotherapy. Carl June. (University of Pennsylvania). 01/06/2010-31/05/2014. 4.621.644 €. Team member.

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

1 Evaluation of DNA/Lipid Nanoparticle-Based Targeting of Hepatocytes to Modulate Antitumor Immune Responses in a Mouse Model of Hepatocellular Carcinoma. Spark Therapeutics. Sonia Guedan. From 01/09/2020. 70.775 €.
2 Define the Intersection of T cell therapy and Oncolytic Viruses. Parker Institute for Cancer Immunotherapy. Carl June. 01/01/2016-01/01/2018. 874.114 €.

C.4. Patents

1 June CH; Watanabe K; Guedan S; Hemminki A; Scholler J; Regina Young. WO2019152660A1. Combination Therapy using Chimeric Antigen Receptors. United States of America. 2018. University of Pennsylvania.
2 Posey AD; Guedan S. WO2018140725A1. CD28 composition and methods for chimeric antigen receptor therapy. United States of America. 2017. University of Pennsylvania.
3 June CH; Guedan S; Posey AD; Scholler J. WO2016019300A1. Subset-optimized chimeric antigen receptor-containing t-cells. United States of America. 2016. University of Pennsylvania.
4 June CH; Guedan S; Xhao Y; Scholler J. CA2864688A1. Use of ICOS-Based CARs to Enhance Antitumor Activity and CAR Persistence. United States of America. 2012. University of Pennsylvania.
5 Guedan S; Cascallo M; Alemany A. US20120148535A1. Oncolytic adenoviruses for treating cancer 2009. Institut Català d'Oncologia (ICO).