

Section A. PERSONAL DATA		Date of the CVA		26/02/2019
Name and Surname	Rosario María Sánchez Martín			
DNI/NIE/passport		Age	44	
Researcher's identification number	Researcher ID	F-3423-2010		
	Código Orcid	000-0001-8912-9799		

A.1. Current professional situation

Institution	University of Granada		
Dpt. / Centre	Pfizer-University of Granada-Junta de Andalucía Centre for Genomics and Oncological Research (GENYO)_ Technology Park of Health Sciences – NANOCEMBIO lab		
Address	Avenida de la Ilustración 114 CP18016 GRANADA		
Phone	Email	rmsanchez@go.ugr.es	
Professional category	Group leader of research team NANOCEMBIO	Start date	01/07/2011
UNESCO spec. code	2302.91 Biological Macromolecules Chemistry; 3312.99 Others(specify) Biomaterials; 2304.10 Monomers Chemistry; 2390.01 Design, Synthesis and Study of new drugs; 2301.06 Fluorimetry; 2302 Biochemistry; 2407.01 Cell culture		
Keywords	Nanotechnology- Delivery systems- Diagnostic probes- Protocols for bioconjugation - Nanotoxicology- Preclinical characterisation- Transfection agents- high throughput screening (HTS) – enzymatic assays- cell-based assays		

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

Bachelor/Master/PhD	University	Year
Degree in Pharmacy	University of Granada	1997
PhD in Pharmacy	University of Granada	2002

A.3. General quality indicators of scientific production

- **Research activity periods: Number of periods:** 3 (2000-2005; 2006-2011, 2012-2017). Date of the last period: 06/06/2018.

- **Citation metrics** Citations. All: 597. Last 5 years: 96. Publications in Q1: 41/51. h-index=17

Section B. SUMMARY OF THE CURRICULUM

Rosario M. Sánchez Martín received her PhD in Pharmacy from the University of Granada in 2002. This researcher has worked on the development of nanotechnological tools since 2002, when she joined the group of Prof. Bradley, Professor of Chemical Biology, in the Combinatorial Center of Excellence in Southampton (England) with a post-doctoral contract that lasted until 2005, when he joined the Mark Bradley Group as Senior Researcher at the University of Edinburgh (Scotland). In 2006, she obtained a prestigious Royal Society Fellowship and a position as an academic researcher at the University of Edinburgh, which allowed her to begin her independent research career, working for five years in the development of screening and diagnostic platforms, biotechnological and nanotechnological tools as well as as in the design of drug delivery systems. During this time, she consolidated multidisciplinary collaborations with biologists, biochemists, clinicians and pharmaceutical companies in the sector. In January 2011, she joined the University of Granada, obtaining in July of that year a position as professor in the Dep. Of Pharmaceutical and Organic Chemistry. In 2013 she took the leadership of a new research group NANOCEMBIO (CTS-987) that focuses on the development of

therapeutic and diagnostic tools, based on nanotechnology, always working in close collaboration with clinicians. Her research is carried out in the Center for Genomics and Oncology Research (GENYO) located in the Technology Park of Health Sciences (PTS) of Granada. Currently, she is the author of 51 scientific publications in top peer-reviewed international journals of high prestige including Nature Chem (Impact factor 2013 (IF) = 23.3), Nature Protocols (IF = 7.8), Acc Chem Res (IF = 24.3), others, being the author of correspondence in 15 of those articles. Her work has been presented as 45 contributions in international congresses including 9 invited papers and a total of 20 oral communications. She has participated in 12 research projects being IP in five of them. Dr. Sanchez's experience in transferring knowledge is reflected in four patents, a recent one that has led to the DTS financing of the ISCIII and another patent that has been licensed to VIDIA Health SA and in its role as founder of the biotech company Nanogetic SL in 2013, where she is currently Chief of Scientific Advisory Board. In addition, the NANOCHEMIO group has carried out several R&D contracts with the international biotech DestiNA Genomics Ltd. to develop biotechnological tools for the detection of nucleic acids and their application in clinical diagnosis. This researcher has experience supervising postdoc (recently Dr. Valero Griñán and Dr. López Delgado, currently Angélica Luque and Victoria Cano), PhD students (she is currently supervising 6 doctoral theses, four of them with FPU funding and another two of them industrial doctorates). She is teaching in official masters and doctoral programs (including international doctoral programs).

Section C. MOST RELEVANT MERITS (ordered by typology)

C.1. Publications

- 1) Marin-Romero, A; Robles-Remacho, A; Tabraue-Chavez, M; Lopez-Longarela, B; **Sanchez-Martin, RM**; Guardia-Monteagudo, JJ; Fara, MA; Lopez-Delgado, FJ; Pernagallo, S; Diaz-Mochon, JJ*. A PCR-free technology to detect and quantify microRNAs directly from human plasma. *Analyst* 2018, 143, 5676-5682. 5-Year JCR Impact Factor: 3.791. Chemistry Analytical 12/81, Q1.
- 2) Valero, T; Delgado-Gonzalez, A; Unciti-Broceta, JD; Cano-Cortes, V; Perez-Lopez, AM; Unciti-Broceta, A,* **Sanchez-Martin, RM***, Drug "Clicking" on Cell-Penetrating Fluorescent Nanoparticles for In Cellulo Chemical Proteomics. *Bioconj Chem.* 2018; 29, 3154-3160. 5-Year JCR Impact Factor: 4.416. Biochemistry & Molecular Biology 64/290, Q1.
- 3) Luque-González, MA; Tabraue-Chávez, M; López-Longarela, B; **Sánchez-Martín, R.M**; Ortiz-González, M; Soriano-Rodríguez, M; García-Salcedo, J; Pernagallo, S; Díaz-Mochón, JJ*. Identification of Trypanosomatids by detecting Single Nucleotide Fingerprints using DNA analysis by dynamic chemistry with MALDI-ToF. *Talanta*, 2018, 176, 299-307. 5-Year JCR Impact Factor: 3.937. Chemistry Analytical 10/81, Q1.
- 4) Altea-Manzano P; Unciti-Broceta JD; Cano-Cortes V; Ruiz-Blas MP; Valero-Griñan T; Diaz-Mochon JJ; **Sanchez-Martin R***. Tracking cell proliferation using a nanotechnology-based approach, *Nanomedicine*, 2017. 12, 1591-1605. 5-Year JCR Impact Factor: 5.613. Biotechnology & Applied Microbiology 21/160, Q1.
- 5) Unciti-Broceta, JD; Cano-Cortés, V; Pernagallo, S; Díaz-Mochón, JJ; **Sánchez-Martín, RM.*** Number of Nanoparticles per Cell through a Spectrophotometric Method - A key parameter to Assess Nanoparticle-based Cellular Assays. *Scientific Reports*, 2015, 5, 10091. 5-Year Impact Factor 5.525. Multidisciplinary Chemistry. 7/63 Q1.
- 6) Ortega, FG; Lorente, JA; Garcia-Puche, JL; Ruiz, MP; **Sanchez-Martin, RM**; Miguel-Perez, D; Diaz-Mochon, JJ,* Serrano, MJ.* miRNA in-situ hybridization in circulating tumor cells – MishCTC. *Scientific Reports*, 2015, 5, 9207 5-Year Impact Factor 5.525. Multidisciplinary Chemistry. 7/63 Q1.
- 7) Pietrovito, L; Cano-Cortés, V; Gamberi, T; Magherini, F; Bianchi, L; Bini, L; **Sánchez-Martín, RM***; Modesti, A.* Cellular response to empty and palladium-conjugated amino-polystyrene nanospheres: A proteomic study. *Proteomics*, 2015, 15 (1), 34-43. 5-Year Impact Factor 3.666. Biochemical Research Methods 13/77 Q1.

- 8) Cárdenas-Maestre, JM; Pérez-López, AM; Bradley, M; **Sánchez Martín, RM.*** Microsphere-Based Intracellular Sensing of Caspase-3/7 in Apoptotic Living Cells, *Macromolecular Bioscience*, **2014**, 7, 923-928. 5-Year Impact Factor 3.491. Polymer Science 11/82 Q1.
- 9) Broceta, A; Johansson, EMV; Yusop, M; **Sánchez-Martín, RM**; Bradley. M. Synthesis of Polystyrene Microspheres and Functionalization with Pd0 Nanoparticles to perform Bioorthogonal Organometallic Chemistry in Living Cells. *Nature Protocols*, **2012**, 7, 1207-1218. 5-Year Impact Factor 11.743. Biochemical Research Methods 3/75 D1-Q1.
- 10) Unciti-Broceta, A.; Díaz-Mochón, J. J.; **Sanchez-Martin, R.M.**; Bradley, M., The Use of Solid Supports to Generate Nucleic Acid Carriers, *Accounts of Chemical Research*, **2012**, 15, 1140-1152. 5-Year Impact Factor 24.633. Chemistry Multidisciplinary 4/152 D1-Q1.

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

1. **Nano3Devices: Nanosistema multifuncionalizado con aplicación teranóstica en cáncer.** DTS18/00121. PI: **Rosario M. Sánchez Martín**. Universidad de Granada. Funding call: Instituto de Salud Carlos III. Proyectos de desarrollo tecnológico en salud (DTS). From 01/01/2019 to 31/12/2020. Funding: 78.650 €.
2. **Multifunctionalized nanosystem for cancer theranostic** Funding call: UGR-PSETC - PSE/16/003 P28 UGR_ From: 01/01/2017 to: 30/09/2019 Funding: 26.000 EUR PI: Rosario M.Sanchez Martín.
3. **Implementation of a novel integrated platform to monitor tumour heterogeneity as a crucial determinant for individualized diagnostic and therapeutic outcome.** PIE16/00045 PI: Juan Antonio Marchal. Universidad de Granada. Funding: Instituto de Salud Carlos III. From: 01/01/2017 to 31/12/2019. Funding: 493.625 €. Team member.
4. **NANOTOF: A new tool for liquid biopsies - Integrating nanotechnology and dynamic chemistry for nucleic acid testing by mass cytometry.** BIO2016-80519-R; PI1: **Rosario M. Sánchez Martín**-PI2: Juan José Díaz Mochón. Funding: Ministerio de economía y competitividad. Retos. From: 30/12/2016 to 29/12/2019. Funding: 140.000 €.
5. **Desarrollo de la Plataforma NanoChem-ISH. Plataforma de Alta Especificidad y Sensibilidad para la detección in-situ de ARN en tejidos usando Nanopartículas y Química Dinámica.** BIO-1778. PI: Juan José Díaz Mochón. Funding call: Junta de Andalucía- Proyecto de investigación de excelencia- Proyecto motriz y de innovación. From: 01/05/14 to 31/04/18; Funding: 129.000 €. Team member.
6. **Evaluation of promiscuity of kinases inhibitors in cancer cells using a nanotechnology approach- NANOKINOME.** PI: **Rosario M. Sánchez Martín**. Funding call: REA of the EU FP7 Talenta Postdoc-Fp7 Marie Curie Actions-TAPOST-110. From: 01/09/2014 to 31/08/2016. Funding: 157.518 €.
7. **Integrating Nanotechnology with Dynamic Chemistry for Fluorescence in-situ micro-RNA Analysis.** CTQ2012-34778 IP: Juan José Díaz Mochón. Entidad financiadora: Ministerio de Economía y Competitividad – Proyectos de Investigación Fundamental no orientada. Duración: 01/01/2013-31/12/2015; Cuantía: 120.000 €. Tipo de participación: investigador equipo.
8. **Novel Strategies for Microsphere-Mediated Cellular Control- A Technology to generate induced pluripotent stem cells for Regenerative Medicine.** 294142, IP: **Rosario M. Sánchez Martín**. Research Executive Agency (REA) of the European Communities. FP7-PEOPLE-2011-CIG. (Universidad de Granada). Desde 01/09/2011. Duración: 100.000 €.

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

- 1-Automatización y desarrollo de sistemas de diagnóstico molecular multiplex para detección de paneles de marcadores ARN/ADN y proteínas en las áreas de

patología infecciosa y alergología. Funding entity: DestiNA Genómica S.L. - business-University contract- INTERCONECTA2015. Duración: 01/12/15 - 31/06/18 (31 meses). Funding: 39.809,00 EUR. PI: Rosario M. Sánchez-Martín

2-Desarrollo de kits de diagnóstico molecular basados en PCR multiplex para identificación de mutaciones puntuales en patologías tumorales e infecciosas. Funding: DestiNA Genómica S.L. –business-University contract -nº 3500-OTRI- CDTI Research in Cooperation projects Call (application nº 75812)- CDTI - IDI-20141503. Fom 16/10/14 to 15/06/16 (20 months). Funding: 62.630,00 EUR. PI: Rosario M. Sánchez-Martín

3.Optimización de estrategias de liberación de fármacos. Funding: Nanogetic S.L. –business- University contract nº 3249-OTRI. From 01/05/2013 to 31/12/2015. PI: Rosario M.Sánchez Martín.

C.4. Patents

- 1. Sanchez-Martin, R.M,** Marchal-Corrales, JA., Diaz-Mochon, J.J, Cano Cortes, MV, Navarro-Marchal, SA, Ruiz-Blas, M.P. Nanopartículas Multifuncionales para Teragnosis. P201830360 España. 12/04/2018
- 2. Messina L.; Unciti Broceta JD; Sanchez Martin RM.** Nanosystems for controlled transport of active molecules fo diagnostic, prognostic and therapeutic purposes. PCT/IB2016/057824. Italia. 29/06/2017.
- 3. Delgado González,A. Sanchez- Martin, RM,** Diaz-Mochon, J.J., Valero-Griñan, T., Orte-Guitierrez, A., Garcia-Fernandez E. Sondas Duales para Citometría de Flujo y Citometría de Masas P201730777. España. 07/06/2017.
- 4. Serrano MJ; Diaz Mochon JJ; Ortega FG; Lorente JA; Garcia Puche JL; Ruiz Blas MP; Sanchez Martin RM.** Method for the detection of circulating tumor cellsby using miRNA-21 as a biomarker. PCT/ES2015/070681. España. 18/09/2014. Licenciada a: VIDIA Health SA.

C.5. Bussiness activity:

Founder of biotech Nanogetic S.L in 2013. Chief of the Advisory board; Scientific advisor of biotech DestiNA Genómica Ltd.

C.6. Reviewer of scientific manuscripts for journals indexed in the Journal Citation Reports, Science Edition: Bioorganic and Medicinal Chemistry Letters, IET Nanobiotechnology, Journal of Combinatorial Chemistry, Journal of Fluorescence, ISRN Medicinal Chemistry and Journal of Neurotrauma.

C.7. Participation in european platforms: (a) Member of the European Tehcnological Platform in Nanomedicine (ETPN)- WG on safety and characterisation in nanomedicine. **(b) COST Action CA17103 - Delivery of Antisense RNA Therapeutics.** (WG 1 Delivery Strategies and WG3 Safety and toxicology).

C.8. Grant Reviewer: Organisation WELLCOME TRUST and EPSRC (United Kingdom). Pool of Experts ITN-H2020.