

Part A. PERSONAL INFORMATION		CV date	08/09/2021
First and Family name		MARÍA-JESÚS PÉREZ-PÉREZ	
SCOPUS ID: 7004375220	Researcher ID	O-4580-2014	
	Orcid code	0000-0003-1336-7760	

A.1. Current position

Name of University/Institution	CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS (CSIC)		
Department	INSTITUTO DE QUÍMICA MÉDICA		
Address and Country	C/ Juan de la Cierva 3, 28006 Madrid		
Current position	Research Professor	From	2011
Espec. cód. UNESCO	239001, 230206		
Palabras clave	Medicinal chemistry, antivirals, anticancer agents		

A.2. Education

Degree	University	Year
Ph D in Pharmacy	Universidad Complutense de Madrid	1991
Degree in Pharmacy	Universidad de Navarra	1987

A.3. General quality indicators: JCR articles, h Index, thesis supervised...

Total number of publications (1990-present): 124 (Scopus)

Total cites (1991-24/02/2021): 3506 cites (Scopus)

Book chapters: 2

Patents: 8

Supervisor of Ph D thesis: 10 thesis

Number of “sexenios de investigación”: 5 periods of scientific production positively evaluated: 1989/1994, 1995/2000, 2001/2006, 2007/2012 and 2013/2018.

Average number of cites per year (2016-2020): among 123 to 184 cites per year, with a total of 775

Publications in Q1 (2016-2020): 11 out of 15 in Q1

H-index (Scopus): 33

Part B. CV SUMMARY (max. 3500 characters, including spaces)

María-Jesús Pérez-Pérez received her Ph D in Pharmacy from the Complutense University in Madrid (UCM, ES). She performed a postdoctoral stay for two years and a half at Rega Institute for Medical Research (KULeuven, BE) financed by **Fundación Areces** and the former **Marie Curie** program. In 1995 she came back to the Nucleoside Group at IQM-CSIC as Tenured Scientist. In 2005 she was promoted as Research Scientist and since 2011 she is Research Professor. In the period 2005-2011 she was Head of Department and from 2011 to 2015 she has been **Director of the Instituto de Química Médica** (IQM-CSIC).

Her research is mostly devoted to **antiviral and antitumor chemotherapy from a medicinal chemistry perspective**. She has been working in selective inhibitors against therapeutically-relevant **nucleoside processing enzymes** (thymidine phosphorylase, nucleoside kinases, etc..) as well in the identification and optimization of antivirals, particularly against HIV, enterovirus, alphavirus and more recently flavivirus. Her currently active areas of research involve antivasular strategies against tumor growth and metastasis and antivirals against the replication of **arbovirus (alpha and flavivirus)** (i.e. targeting the viral capping machinery). She is author of more than 120 scientific papers, coauthor of 8 patent applications and has supervised 9 Ph D thesis. She is IP of the project PID2019-105117RR-C22 for antivirals against WNV and other flaviviruses. She is also IP of a project for entry inhibitors against SARS-CoV-2 (CSIC-COV19-082). In 2020 she has been elected member of the Board of Directors of the International Society for Antiviral (ISAR).

Part C. RELEVANT MERITS

C.1. Relevant Publications Since 01/01/2016. Inverse order

- 1.- K. Kovacicova, M. Gorostiola González, R. Jones, J. Reguera , A. Gigante , M. J. Pérez-Pérez , G.Pürstinger , J. Moesslacher, T. Langer , L- S Jeong , L Delang, J Neyts, E J Snijder, G J P van Westen , MJ van Hemert Structural insights into the mechanisms of action of functionally distinct classes of Chikungunya virus nonstructural protein 1 inhibitors. ***Antimicrob. Agents. Chemother.***65, (2021) e02566-20. 10.1128/AAC.02566-20.
- 2.- M. J. Pérez-Pérez* L. Delang, Lisa F. P. Ng and E. M. Priego. Chikungunya virus drug discovery: still a long way to go? ***Expert. Opin. Drug Discover.*** 14, (2019), 855-866. DOI://10.1080/17460441.2019.1629413. JCR: 4.421. Q1; 38/267 Pharmacology and Pharmacy.
3. AS. Ferreira-Ramos, C. Q. Li, C. Eydoux, JM Contreras, C. Morice, G. Querat, A. Gigante, M.J. Pérez-Pérez; M.L. Jung, B. Canard, J.C. Guillemot, E. Decroly, B. Coutard. Approved drugs screening against the nsP1 capping enzyme of Venezuelan equine encephalitis virus using an immuno-based assay. ***Antivir. Res.*** 163 (2019), 59-69. DOI:10.1016/j.antiviral.2019.01.003. JCR: 4.307. Q1: 32/261, Pharmacology.
- 4.- O. Bueno, G. Tobajas, J. Estévez-Gallego, S. Noppen, M. J. Camarasa, J. Fernando Díaz, S. Liekens, E. M. Priego and M. J. Pérez-Pérez*, Conformational mimetics of the α -methyl chalcone TUB091 binding tubulin: Design, synthesis and antiproliferative activity. ***Eur. J. Med. Chem*** 148 (2018) 337-348. DOI://doi.org/10.1016/j.ejmech.2018.02.019. JCR: 4.81. Q1; **D1**. 4/59 Chemistry, medicinal.
- 5.- A Gómez-SanJuan, A. M. Gamo, L. Delang, A. Pérez-Sánchez, S. N. Amrum, R. Abdelnabi, S. Jacobs, E. M. Priego, M. J. Camarasa, D. Jochmans, P. Leyssen, L. Ng, G. Querat, J. Neyts and M.-J. Pérez-Pérez*. Inhibition of the Replication of Different Strains of Chikungunya Virus by 3-Aryl-[1,2,3]triazolo[4,5-d]pyrimidin-7(6H)-ones. ***ACS Infect. Dis.*** 4, (2018), 605-619. DOI: 10.1021/acsinfecdis.7b0219. JCR: 4.325; Q1 6/59 Chemistry, medicinal
- 6.- A. Gigante, A Gómez-SanJuan, L. Delang, C. Li, O. Bueno, A. M. Gamo, E. M. Priego, M. J. Camarasa, D. Jochmans, P. Leyssen, E. Decroly, B. Coutard, G. Querat, J. Neyts and M.-J. Pérez-Pérez*. Antiviral activity of [1,2,3]triazolo[4,5d] pyrimidin-7(6H)-ones against chikungunya virus targeting the viral capping nsP1. ***Antivir. Res.*** 144, 216-222 (2017) doi.org/10.1016/j.antiviral.2017.06.003. JCR: 4.307. Q1: 32/261, Pharmacology.
- 7.- L. Delang, C. Li, A. Tas, G. Quérat, I. C. Albuлесcu, T. De Burghgraeve, N. A. Segura Guerrero, A. Gigante, G. Piorkowski, E. Decroly, D. Jochmans, B. Canard, E. J. Snijder, M. J. Pérez-Pérez, M. J. van Hemert, B. Coutard, P. Leyssen & J. Neyts. The viral capping enzyme nsP1: a novel target for the inhibition of chikungunya virus infection. ***Sci. Reports*** 6, 31819 (2016); doi:10.1038/srep31819. JCR: 4.011; Q1: 15/69 Multidisciplinary Sciences.
- 8.- M.-J. Pérez-Pérez* E. M. Priego. O. Bueno, S. Martins, M. D. Canela, and S. Liekens. Blocking Blood Flow to Solid Tumors by Destabilizing Tubulin: An Approach to Targeting Tumor Growth. ***J. Med. Chem.*** 59, 8685–8711 (2016). DOI: 10.1021/acs.jmedchem.6b00463. JCR: 6.253; Q1; **D1**: 3/59 Chemistry, medicinal.

C.2. Research projects and grants. Inverse order

Project title: Targeting host-cell metabolism and key viral processes to combat West Nile virus and related flaviviruses (HOSTMEVIR) (Coordinated project: PID2019-105117RR-C21)
 Financing entity: Agencia Estatal de Investigación
 Duration from: 01/06/2020 till 31/05/2023
 Participants: Instituto de Investigación Agraria (INIA), Instituto de Química Médica (CSIC).
 Principal investigator IQM: Dr. M. J. Pérez-Pérez (Ref. **PID2019-105117RR-C22**)

Project title: Multidisciplinary approach to blocking SARS-CoV-2 entry through antivirals and Decoy-ACE2 fragments
 Financing entity: CSIC (PIE) Ref. **CSIC-COV19-082**

Participants: Instituto de Química Médica, Centro de Investigaciones Biológicas Margarita Salas, Instituto de Biomedicina de Valencia, Instituto de Biología Integrativa Sistemas (CSIC-UV)

Duration from 14/04/2020 till: 01/10/2021

Principal investigator and coordinator: Dr. M. J. Pérez-Pérez

Project title: The polypharmacology of natural products as inspiration for novel bioactive compounds in cancer and antiviral diseases

Financing entity: CSIC (PIE) Ref. **201980E100**

Participants: Instituto de Química Médica (CSIC).

Duration from 1/09/2019 till 31/08/2022

Principal investigator: Dr. M. J. Pérez-Pérez

Project title: Thematic network of antivirals against arboviral diseases (REARBOVIR).

Financing entity: Plan Estatal I+D+i. Redes de Excelencia Plan Nacional. ref **SAF2016-81856-REDT**

Participants: 7 groups

Duration, from: July 2017 till: December 2020

Principal investigator and coordinator: Dr. M. J. Pérez-Pérez

Project title: Antivascular strategies to halt tumor metastasis and other therapeutic applications.

Financing entity: CSIC (Programa Proyectos Intramurales Especiales) Ref. **201680E079**

Participants: Instituto de Química Médica (CSIC).

Duration from 1/09/2016 till 31/08/2019

Principal investigator: Dr. M. J. Pérez-Pérez

Project title: Characterization and blocking through peptides and small molecules of target proteins involved in the proliferation of pathogen microorganisms and cancer cells

Financing entity: Plan Nacional (Programa de Biomedicina) ref. **SAF2015-64629-C2-1-R**

Participants: Instituto de Química Médica (CSIC), Departamento de Farmacología (UAH)

Duration, from: January 2016 till December 2019

Principal investigator: Dra. María José Camarasa (Coordinator), Co-IP: Dr. M. J. Pérez Pérez

Rol of M.J. Pérez-Pérez: Co-IP of the coordinated project and responsible of tubulin inhibitors and antichikungunya compounds

Number of participants: 7

C.6. Supervisor of PhD, master thesis and other personnel (2016-present)

Ph D student: Oskía Bueno Zaragoza. Title: La estructura del dominio de colchicina en tubulina como base para el diseño y síntesis de compuestos con propiedades antimitóticas y antivascuales. Defended 26/05/2017. UCM. Premio Ramón Madroñero XVII convocatoria para jóvenes investigadores de la S.E.Q.T. (2017).

Ph D student: Marta Gargantilla López. Title: Structure-based design and synthesis of ligands directed against relevant targets in cancer. Defended 24/06/2021. UAM. Cum laude with international mention

Master student: Ana Isabel Carbajo Gordillo. Title: Infecciones virales emergentes: modificaciones sobre el sustituyente aromático de 3-ariltriazolopirimidinas y su impacto en la replicación del virus chikungunya. Máster Universitario en Química Orgánica. July 2016.

Master student: Gloria Tobajas Curiel. Title: Polyphenols inspired in natural flavanones: design and synthesis. Máster Universitario en Descubrimiento de fármacos. June 2017. 1st award in the "9^a Edición del Premio Cátedra Janssen-Cilag" (Faculty of Pharmacy, San Pablo CEU, 2017) for her master thesis.

Master student: **José López Fernández**. Title: Design and synthesis of covalent inhibitors directed towards the nuclear exporter protein exportin-1 (XPO1). Máster Universitario en Descubrimiento de fármacos. June 2019. Calification 9.0

Master student: **Andrea Fernández Martínez**. Title: Virus globales reemergentes: moléculas dirigidas al proceso de capping en la replicación de arbovirus. Máster InterUniversitario en Química Orgánica. **JAE Intro**. June 2019. Calification: 9.4

Master student: **María José Puerto Madorrán**. Title: Antivirales de amplio espectro frente a flavivirus por inhibición de la actividad metiltransferasa de la proteína NS5 viral. Máster Universitario en Descubrimiento de fármacos. June 2021

PredDoc. **Ángela González García**. Exp: PEJD-2018-PRE/BIO-8624. Garantía juvenil-CAM. 01/04/2019- 31/03/2020.

Predoc. **Adrián Luguera Ruiz**. Exp: PEJD-2019-PRE_BMD-16895. Garantía juvenil-CAM. 01/06/2020-01/07/2021.

C.7. Evaluation of grant proposals

Evaluator of grant proposals through Spanish AEI.

Postdoc applications and research proposals FWO (Flanders Research Foundation)

Evaluator of KULeuven research proposals and for the British Society of Antimicrobial Chemotherapy.

Remote independent evaluator of the Hellenic Foundation for Research and Innovation (call 2020) and the Italian Ministry for Universities and Research (PRIN call 2020)

C.8. Other merits

Member of the scientific committee of the XVIII National Meeting of the SEQT, Salamanca 2018.

Member of the Editorial Advisory Board of *European Journal of Medicinal Chemistry* (2019-)

Member of the Editorial Advisory Board of *Pharmaceutics* (2019-)

Elected member of the Board of Directors of the International Society of Antiviral Research (ISAR) (2020-)

C.8. Recent Lectures.

1.- M. J. Pérez-Pérez. Antivirals against chikungunya virus from a medchem perspective: challenges and lessons learned. 32nd International Conference on Antiviral Research. Baltimore (USA) 12-15 May 2019. **Keynote lecture**.

2.- M. J. Pérez-Pérez. Development of antivirals: medicinal chemistry at the beginning of the process...and beyond. 11st International Meeting Global Virus Network/XV SEV Congress Barcelona. 9-12 June 2019. **Keynote lecture**.

3.- M. J. Pérez-Pérez. Antiviral drug discovery: a multifactorial and challenging endeavour. 33rd International Conference on Antiviral Research. ICAR Webinars. 05/11/2020. **Keynote lecture**.

4.- M. J. Pérez-Pérez. Antivirals against chikungunya virus: analyzing the current situation to identify new opportunities. EFMC-ISMC 2021. XXVI EFMC International Symposium on Medicinal Chemistry. 29/08-02-11 Virtual event. **Keynote lecture**.