

CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	María
Family name	Gómez Cañas
Gender (*)	Female
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Open Researcher and Contributor ID (ORCID) (*)	0000-0002-2520-948X

A.1. Current position

Position	Assistant Professor		
Initial date	02/11/2022		
Institution	Universidad Complutense de Madrid (UCM)		
Department/Center	Biochemistry and Molecular Biology, Faculty of Medicine		
Country	Spain	Teleph. number	626324676
Key words	Cannabinoids, Endocannabinoid system, Drug discovery, Neuroprotection, Parkinson´s Disease		

A.2. Previous positions

Period	Position/Institution/Country/Interruption cause
Mar 2021–Jun 2022	Postdoctoral Researcher/UCM/Spain/End of contract
Apr 2017–Feb 2021	Postdoctoral Researcher/CIBERNED/Spain/End of contract
Feb 2014–Dic/2015	Predocctoral Researcher/UCM/Spain/End of contract
Oct 2012–Feb 2014	Predocctoral Researcher/Vivacell Biotechnology/Spain/End of contract
Dic 2010–Jun 2012	Predocctoral Researcher/UCM/Spain/End of contract

A.3. Education

PhD in Biochemistry, Molecular Biology and Biomedicine	UCM/Spain	2016
Master in Biochemistry, Molecular Biology and Biomedicine	UCM/Spain	2011
Bachelor in Biology	UAM/Spain	2009

Part B. CV SUMMARY

I obtained my Bachelor's in in Biology at the UAM in 2009. A few months later I joined the cannabinoids group of the Department of Biochemistry and Molecular Biology of the Faculty of Medicine of UCM starting my research career. In 2011, I accomplished the Master's degree in Biochemistry, Molecular Biology and Biomedicine at the UCM. Then, I started my PhD in the Biochemistry, Molecular Biology and Biomedicine program at UCM, which I finished in 2016 with the defense of my doctoral thesis entitled: *Caracterización de nuevos ligandos cannabinoides con potencial neuroprotector* (qualified with outstanding cum laude). My PhD was possible due to obtaining two public and competitive contracts with the UCM and one contract with the private company Vivacell Biotechnology. During this period, I accomplished a short research placement in the Department of Pharmacology and Physiology of the University of Cantabria.

Once I finished my PhD I gained a postdoctoral position in the same laboratory thanks to competitive contracts with CIBERNED and UCM. In November 2022 I won a position as assistant professor at the Department of Biochemistry and Molecular Biology of the Faculty of Medicine where, in addition to my teaching duties, I develop my research activity.

I have achieved a great background and leadership as a researcher after working in the field of cannabinoids in neurodegenerative diseases from 2010 to the present. Since my postdoctoral stage I have worked as Postdoc in the Parkinson's line of the group and as leader of development of new drugs line. As a result of this task we have obtained promising results for the treatment of some neurodegenerative diseases (especially Parkinson's and Alzheimer's), but also for the treatment of different types of cancer, different autoimmune diseases and other pathologies such as arthritis, diabetic nephropathy or obesity. During my last stage as assistant professor I have initiated my own line of research as co-PI of a national plan project based on the study of the orphan receptor GPR12 and its role in Parkinson's disease.



In the development of these tasks I have also directed and supervised many undergraduate, master and doctoral students and I have been the director of 3 TFM, 8 TFG and 1 internship.

Throughout my career I have also developed a high capacity for collaboration with companies and research institutions that is supported by the 8 contracts with private companies in which I have participated. I have also worked in a total of 24 competitive projects (in one of them as PI) which has allowed me to be co-author of 34 scientific publications (19 are Q1 and 9 of them are also D1), two book chapters, two patents of invention and more than 60 participations in national (40) and international (29) scientific meetings. For all this I have achieved an h-index of 18 in WOS (with 1132 citations) and 21 in Google Scholar (with 1588 citations). It is also worth mentioning that I have received numerous awards related to different facets of my professional career such as technology and knowledge transfer, communications in scientific meetings, scientific publications and scientific dissemination news. I belong to and actively collaborate with different societies and research institutes, and I am a member of the Spanish Cannabinoid Research Society (SEIC) dissemination committee. I also collaborate with different scientific journals, reviewing and editing research and review articles. Specifically, I have recently led the editing process of a Research Topic, which has culminated in the publication of an editorial article of which I am the corresponding author.

During my professional career, I have also developed numerous tasks related to teaching, which have allowed me to achieve useful skills for the field of research and innovation. Besides, during my postdoctoral period I had two daughters, which has meant that I have been on maternity leave for 32 weeks and 5 weeks of accumulated breastfeeding leave.

Part C. RELEVANT MERITS

C.1. Publications. [Complete list of publications](#)

1. **Gómez-Cañas M**, Rodríguez-Cueto C, Fernández-Ruiz J, de Lago E. **2025**. Development of Novel Neuroprotective Agents Targeting GPCR Using in Vitro Assays. *Methods in Molecular Biology*, 2899: (339-366). doi: 10.1007/978-1-0716-4386-0_22.
2. **Gómez-Cañas M**, Rodríguez-Cueto C, Satta V, Hernández-Fisac I, Navarro E, Fernández-Ruiz J. **2023**. Endocannabinoid-binding receptors as drug targets. *Methods in Molecular Biology*, 2576:67-94. doi: 10.1007/978-1-0716-2728-0_6.
3. Burgaz S, García C, **Gómez-Cañas M**, Rolland A, Muñoz E, Fernández-Ruiz J. **2021**. Neuroprotection with the Cannabidiol Quinone Derivative VCE-004.8 (EHP-101) against 6-Hydroxydopamine in Cell and Murine Models of Parkinson's Disease. *Molecules*, 26(11):3245. doi: 10.3390/molecules26113245.
4. Burgaz S, García C, **Gómez-Cañas M**, (...), Fernández-Ruiz J. **2021**. Neuroprotection with the cannabigerol quinone derivative VCE-003.2 and its analogs CBGA-Q and CBGA-Q-Salt in Parkinson's disease using 6-hydroxydopamine-lesioned mice. *Mol. Cell. Neurosci.* 110:103583. doi: 10.1016/j.mcn.2020.103583.
5. Burgaz S, García C, **Gómez-Cañas M**, Muñoz E, Fernández-Ruiz J. **2019**. Development of an oral treatment with the PPAR- γ -Acting cannabinoid VCE-003.2 Against the Inflammation-Driven Neuronal Deterioration in Experimental Parkinson's Disease. *Molecules*, 24(15). doi: 10.3390/molecules24152702.
6. García C, **Gómez-Cañas M**, Burgaz S, (...), Fernández-Ruiz J. **2018**. Benefits of VCE-003.2, a cannabigerol quinone derivative, against inflammation-driven neuronal deterioration in experimental Parkinson's disease: possible involvement of different binding sites at the PPAR γ receptor. *J Neuroinflammation*, 15(1):19. doi: 10.1186/s12974-018-1060-5.
7. Morales P, **Gómez-Cañas M**, (...), Jagerovic N. **2016**. Chromenopyrazole, a Versatile Cannabinoid Scaffold with in Vivo Activity in a Model of Multiple Sclerosis. *J MedChem*, 28;59(14):6753-71. doi: 10.1021/acs.jmedchem.6b00397.
8. **Gómez-Cañas M**, Morales P, García-Toscano L, (...), Pazos MR. **2016**. Biological characterization of PM226, a chromenoisoxazole, as a selective CB2 receptor agonist with neuroprotective profile. *Pharmacol Res*, 110:205-15. doi: 10.1016/j.phrs.2016.03.021.



9. Morales P, Whyte LS, Chicharro R, **Gómez-Cañas M**, (...), Jagerovic N. **2016**. Identification of Novel GPR55 Modulators Using Cell-Impedance-Based Label-Free Technology. *J MedChem*, 59(5):1840-53. doi: 10.1021/acs.jmedchem.5b01331.
10. Ragusa G*, **Gómez-Cañas M***, Morales P*, (...), Murineddu G. **2015**. Synthesis, pharmacological evaluation and docking studies of pyrrole structure-based CB2 receptor antagonists. *Eur J MedChem*, 101:651-67. *share the first authors's position. doi: 10.1016/j.ejmech.2015.06.057.

C.2. Congress

1. Madariaga-López A., Akan E., Yunta M., (...), **Gómez Cañas M**. Oral Communication. Deciphering the therapeutic potential of the orphan receptor GPR12 in an inflammatory model of Parkinson's disease. XI Symposium of Medicinal Chemistry young researchers. 18 Jul **2025**. Bilbao, Spain.
2. **Gómez-Cañas M.**, Lubrini F., Rodríguez-Carreiro S., (...), Fernández-Ruiz J. Poster. Potential neuroprotective effects of synthetic (+)-enantiomers of natural occurring cannabinoids and some derivatives. XIII CIBERNED Forum and VII International Congress on Research and Innovation in Neurodegenerative Diseases (CiiiEN). 18-20 Sep **2019**. Valencia, Spain.
3. Gonzalo-Consuegra C., Fernández-Ruiz J., Jagerovic N., Figuerola L., **Gómez-Cañas M**. Póster. Design, synthesis and biological evaluation of allosteric modulators of the CB2 receptor with neuroprotective profile. 2nd Edition PhDay of PhD in Biomedical Research. 22 Jun/**2018**. Madrid, Spain.
4. Burgaz S., **Gómez-Cañas M.**, Bellido M.L., Navarrete C., Muñoz E., García C., Fernández-Ruiz J. Póster. Investigation in the anti-inflammatory and neuroprotective effects of VCE003.2, a cannabigerol quinone derivative, using inflammatory-based cellular models and in vivo experimental parkinsonism. XI CIBERNED Scientific Forum and V CiiiEN. 20-22 Sep **2017**. Lisboa, Portugal.
5. Morales P.; **Gómez-Cañas M.**; Navarro, G, (...), Jagerovic, N. Invited Oral Communication. *Chromenopyrazole, a Versatile Cannabinoid Scaffold with in Vivo Activity in a Model of Multiple Sclerosis*. XVII Annual Meeting of the Spanish Cannabinoid Research Society. 24-26 Nov **2016**. Las Palmas, Spain. ***Best cannabinoid publication award.**
6. Morales P., **Gómez-Cañas M.**, Navarro G., (...), Jagerovic N. Oral communication. Novel CB2 receptor agonists: synthesis, molecular modeling, in vitro and in vivo neuroprotective properties. 26th International Cannabinoid Research Society Symposium (ICRS); 26 June-1 July **2016**; Bukivina, Poland.
7. **Gómez-Cañas M.**, Morales P., García-Toscano L., (...), Pazos M.R. Oral communication. Biological characterization of PM226, a chromenoisoxazole, as a selective CB2 receptor agonist with neuroprotective profile. XVI Annual Meeting of SEIC. 22-23 Sep **2015**. Granada, Spain.
8. **Gomez-Cañas M.**, Deiana V., García-Toscano L., (...), Pazos M.R. Poster. Biological characterization of a 6-cyclopropyl-1,4-dihydroindeno[1,2-C]pyrazole-3-carboxamide as a potential CB2-/PPAR-dependent anti inflammatory/neuroprotective agent. XV Annual Meeting of SEIC. 27-29 Nov **2014**. Cuenca, Spain.
9. Morales P., Vara D., **Gómez-Cañas M.**, (...), Jagerovic N. Oral Communication. Chromenopyrazolediones: cannabinoid-quinone derivatives with antitumor activity in vitro and in vivo. First Spanish-Italian Joint Meeting on Cannabinoid Research - XIII Annual Meeting of SEIC. 29/Nov-1/Dec **2012**. Madrid, Spain.
10. **Gómez-Cañas M.**, Morales P., Hernández-Folgado L., Gómez M., Jagerovic N., Fernández-Ruiz J., Goya P. Oral communication. Characterization of selective CB2 receptor ligands based on diaryl-pyrazole and triazole structures. XII Annual Meeting of SEIC. 24-26 Nov **2011**. Pamplona, Spain.

C.3. Research projects (*MGC is part of the Research Team.):

1. Unravelling the therapeutic potential of the orphan receptor GPR12 in Parkinson's disease (GPR12-PD). **Spanish Ministry**. PI: Morales P (IQM) and Gómez-Cañas M (UCM). Sept/2023-Aug/2024. **162.500€**.



2. *Investigating GPR55 as a novel neuroprotective target in experimental Parkinson's disease (MJFF-022552)*; **Michael J Fox Foundation (MJFF)**. PI: Fernández-Ruiz J (UCM). Dic/2022-Jun/2024. **\$207.000**.
3. CIBER sobre Enfermedades Neurodegenerativas (CIBERNED CB06/05/0089). Área 3: Patología molecular y formas clínicas de la enfermedad de Huntington y las ataxias degenerativas (2006-2009). Programa 2: Enfermedad de Parkinson y otros trastornos motores neurodegenerativos (2010-2022); **Spanish Ministry**. PI: Fernández-Ruiz J (UCM). 2006-ongoing. **1.039.581,92€**.
4. Diseño y desarrollo de fármacos innovadores para el tratamiento la esclerosis lateral amiotrófica (S2017/BMD-3813). **Comunidad de Madrid**. PI: De Lago E (UCM). Jan/2018–Jan/2021. **€ 767.395**.
5. Interacción CB1R-GRP78: ¿un nuevo mecanismo regulador de la actividad neuroprotectora de los cannabinoides? (PI2018/01-3). **Spanish Ministry**. PI Guzmán M (UCM). Jan/2019-Dic/2020. **€ 190.200**.
6. Dianas en el sistema endocannabinoide para el desarrollo de terapias frente a la neurodegeneración: énfasis en la esclerosis lateral amiotrófica y otras enfermedades neurodegenerativas (SAF2015-68580-C2-1-R). **Spanish Ministry**. PI: Fernández-Ruiz J (UCM) & De Lago E (UCM). Jan/2016-Apr/2019. **€ 302.500**.
7. Neurofarmacología del sistema endocannabinoide: del laboratorio a la clínica (S2010/BMD-2308). **Comunidad de Madrid**. PI: Guzmán M (UCM) and Fernández-Ruiz J (UCM). Jan/2012-Apr/2016. **€ 922.975**.
8. Identificación y caracterización molecular de subpoblaciones de receptores cannabinoides en poliglutaminopatías (PI2013/05-2). **Spanish Ministry**. Oct/2013-Dic/2015. **€ 200.000**.
9. *Cannabinoid CB2 receptors as a new target for the treatment of disease progression in Parkinson's disease: studies in LRRK2-transgenic mice*; **MJFF**. PI: Fernández-Ruiz J (UCM) & García C (UCM). Jan/2013-Sep/2015. **\$146.258,15**.
10. Estudio de los mecanismos implicados en la neuroprotección con cannabinoides antioxidantes y agonistas CB2 en varias enfermedades neurodegenerativas (SAF2009-11847). **Spanish Ministry**. PI: Fernández-Ruiz J (UCM). Jan/2010-Dic/2012. **€ 242.000**.

C.4. Contracts, technological or transfer merits:

1. Patents:

- 1.1. N. Jagerovic; P. Morales; P. Goya; S. Blasco; C. Sánchez; M. Gómez; J. Fernández. **WO2015140377A1**. *Nuevas cromenoquinonas moduladoras de receptores CB2 con actividad antitumoral*. Priority date: 18/03/2014. CSIC, UCM.
- 1.2. N. Jagerovic; P. Morales; P. Goya; I. Díaz-Laviada; D. Vara; M. Gómez; J. Fernández. **WO2014013117A1**. *Chromenopyrazolediones as cannabinoid quinone derivatives having antitumour activity*. Priority date: 23/01/2014. CSIC, Universidad de Alcalá, UCM.

2. Contracts with companies (the most relevant in this project context of a total of eight are shown below): *MGC is part of the Research Team:

- 2.1.1. *Investigation in the anti-inflammatory and neuroprotective properties of the phytocannabinoid derivatives VCE-004.8 and VCE-003.2 (and its analogs CBG-Q-Salt and CBGA-Q) in Parkinson's disease using 6hydroxydopamine-lesioned mice.*. **Emerald Health Pharmaceuticals (USA)**. Ago/2018-Jan/2019.
- 2.1.2. *Investigation in the anti-inflammatory and neuroprotective properties of the phytocannabinoid derivative VCE-003.2 in Parkinson's disease using adeno-associated viral vector-mediated overexpression of mutant A53T α -synuclein in mice.* **Emerald Health Biotechnology España**. Apr/2021- Sep/2021.
- 2.1.3. *Investigation in the anti-inflammatory and neuroprotective properties of the phytocannabinoid derivative VCE003.2 in Parkinson's disease using LPS-lesioned α -synuclein transgenic mice.* **Emerald Health Biotechnology España**. Feb/2017-Jul/2018.