Fecha del CVA	27/09/2022

Parte A. DATOS PERSONALES

Nombre	Manuel Alejandro		
Apellidos	Narváez Peláez		
Sexo	Hombre	Fecha de Nacimiento	13/09/1981
DNI/NIE/Pasaporte	44591541S		
URL Web	https://www.uma.es/departamento-de-fisiologia-humana-histologia-humana-anatomia-patologia-educion-fisica-y-deportiva/info/46099/manuel-alejandro-narvaez-pelaez/		
Dirección Email	mnarvaez@uma.es		
Open Researcher and Contributor ID (ORCID)	0000-0003-0922-4900		

A.1. Situación profesional actual

Puesto	Profesor titular de universidad		
Fecha inicio	2018		
Organismo / Institución	Universidad de Málaga		
Departamento / Centro	Departamento Fisiología Humana, Histología Humana, Anatomía Patológica y Educación Física Deportiva / Facultad de Medicina		
País	España	Teléfono	952405951
Palabras clave	Medicina clínica y epidemiología; Biomedicina; Biología molecular, celular y genética		

A.3. Formación académica

Grado/Master/Tesis	Universidad / País	Año
Programa Oficial de Doctorado en Neurociencia y sus Aplicaciones Clínicas	Universidad de Málaga	2012
Licenciado en Medicina y Cirugía	Universidad de Málaga	2005

Parte B. RESUMEN DEL CV

Medicine and surgery degree in 2005, with the best academic record of his promotion, in 2006 I obtained a competitive pre-doctoral excellence scholarship from the Andalusian board. The research activity developed allowed him to carry out 5 months visits during 2009 and 2010 at the Karolinska Institute in Stockholm to obtain the European mention. In 2012 I obtained the European PhD thesis with cum laude qualification, the extraordinary PhD award from the faculty of medicine, thesis prize from medical college of Malaga (2012) and the prize from college of pharmacists of Malaga (2013). Up to 6 postdoctoral visits to the Karolinska Institute in Stockholm collaborating on multiple research projects establishing collaborative links with the Swedish research group, during the years 2012-2021, total more than 1 year. The research results have been published successively in congresses of international and national relevance. In addition, innovative articles have been published, including in the first quartile of impact index in its category and with quality indices, including high cite numbers. Our team has performed multidisciplinary research and worked in a highly integrative manner at different systems levels, we have contributed to the GPCR receptor-receptor interactions field focus in CNS diseases, such as depression, Parkinson, addiction drugs and Alzheimer. I established valuable collaborations with several regional and international research groups, including Borroto and Fuxe's lab (Karolinska Institutet, Stockholm, Sweden); and Brito lab (Artificial Intelligence Institute, Spain). I am performing an independent line of research within the Human Physiology Department, University of Malaga, where I currently work, investigating the impact of the disturbance and disbalance of the Y1R heterocomplexes in MDD. I aim to understand the molecular mechanisms and potential relevance of Y1R heterocomplexes interactions, in line with my pioneering work in this field. From the early beginning of my career, I have always shown a high level of scientific independence. Proof of this has been my ability to establish new research lines and challenging scopes in parallel to those of the research

responsibilities that I have been assigned. I helped to set up the in situ PLA technique to study heteroreceptor complexes in the brain. Nowadays, I am the main PI in a Andalusian-FEDER project (UMA-FEDERJA-100) regarding neuropeptides and cognitive impairment and UMA Projects regarding neuropeptides and depression. We also performed a crowfunding project with high social relevance. I have also a contract for Transfer of Research Results (OTRI) with the private medical company: Centro Médico Sanitario Clinicas Rincón Vithas S.L. (http://www.vithas.com). Moreover, we have patents with national and international protection, as detailed below. I have been training several University students, Phd students and working with postdoctoral researchers in the necessary tasks for the research activity during the last years. Also I am teaching in PhD programs, participates in Master's programs and have supervised several university student graduate works during last years. I supervised with Dr. Borroto-Escuela the PhD student Fidel Corrales, thesis with international doctorate mention presented as publication collection PhD thesis (23-05-2017) and the international thesis of Ramon Fores Pons (27-06-2022). We are supervising to Mariana Pita, she will present her thesis in the University of Málaga (September 2022). We have included (Manuel Narvaez and Dasiel Borroto as supervisors) this 2021/22 course three new PhD students in the Biomedicine doctorate program (Jose Erik Alvarez Contino, Alexander Lopez Salas and Marina Mirchandani Duque). Furthermore, Marina Mirchandani Duque has got a predoctoral 2022 Andalusian PhD student grant under our supervision. I also participate as a reviewer of scientific articles in pioneering international journals in his area and is part of the editorial board of several relevant journals, such as Frontiers in Pharmacology, Frontiers in Molecular medicine. I have reviewed international research projects from CONACYT, Mexico (2019) and signed a contract as evaluator for the Call 'Marie Skłodowska-Curie Actions Doctoral Networks' (HE-MSCA-DN-2021).

Parte C. LISTADO DE APORTACIONES MÁS RELEVANTES

C.1. Publicaciones más importantes en libros y revistas con "peer review" y conferencias

AC: Autor de correspondencia; (nº x / nº y): posición firma solicitante / total autores. Si aplica, indique el número de citaciones

1 **Artículo científico**. Mirchandani-Duque M; Barbancho MA; Lopez-Salas A; Alvarez-Contino JE; Casares NG; Fuxe K; Borroto-Escuela DO; Narváez M (AC). (8/8). 2022. Galanin and Neuropeptide Y Interaction Enhances Proliferation of Granule Precursor Cells and Expression of Neuroprotective Factors in the Rat Hippocampus with Consequent Augmented Spatial Memory Biomedicines. 1-1. ISSN 2227-9059. https://doi.org/10.3390/biomedicines10061297

2 **Artículo científico**. Borroto-Escuela DO; Fores R; Pita M; Barbancho MA; Zamorano-Gonzalez P; Casares NG; Fuxe K; Narváez M (AC). (8/8). 2022. Intranasal Delivery of Galanin 2 and Neuropeptide Y1 Agonists Enhanced Spatial Memory Performance and Neuronal Precursor Cells Proliferation in the Dorsal Hippocampus in Rats Frontiers in Pharmacology. 1-1. ISSN 1663-9812.

3 **Artículo científico**. Borroto-Escuela DO; Pita-Rodriguez M; Fores-Pons R; Barbancho MA; Fuxe K; Narváez M (AC). (6/6). 2021. Galanin and neuropeptide Y interactions elicit antidepressant activity linked to neuronal precursor cells of the dentate gyrus in the ventral hippocampus Journal of Cellular Physiology. 236-5, pp.3565-3578. ISSN 1097-4652.

4 **Artículo científico**. Narváez M; Andrade-Talavera Y; Valladolid-Acebes I; et al; Borroto-Escuela DO. (1/9). 2020. Existence of FGFR1-5-HT1AR heteroreceptor complexes in hippocampal astrocytes. Putative link to 5-HT and FGF2 modulation of hippocampal gamma oscillations Neuropharmacology. 15-170, pp.108070. ISSN 0028-3908.

5 **Artículo científico**. Borroto-Escuela DO; Narváez M; Romero-Fernández W; et al; Fuxe K. (1/10). 2019. Acute Cocaine Enhances Dopamine D 2 R Recognition and Signaling and Counteracts D 2 R Internalization in Sigma1R-D 2 R Heteroreceptor Complexes Molecular Neurobiology. 56-10, pp.7045-7055. ISSN 1559-1182.

6 **Artículo científico**. Narváez M (AC); Borroto-Escuela DO; Santín L; et al; Fuxe K. (1/11). 2018. A Novel Integrative Mechanism in Anxiolytic Behavior Induced by Galanin 2/Neuropeptide Y Y1 Receptor Interactions on Medial Paracapsular Intercalated Amygdala in Rats.Frontiers In Cellular Neuroscience. 12-119, pp.1-17. ISSN 1662-5102.

7 **Artículo científico**. Borroto-Escuela DO; DuPont CM; Li X; et al; Narváez M; Lindskog M. (7/16). 2017. Disturbances in the FGFR1-5-HT1A Heteroreceptor Complexes in the Raphe-Hippocampal 5-HT System Develop in a Genetic Rat Model of Depression Frontiers In Cellular Neuroscience. 11-309. ISSN 1662-5102.

8 **Artículo científico**. Flores-Burgess A; Millón C; Gago B; et al; Narváez M; Díaz-Cabiale Z. (4/10). 2017. Galanin (1-15) enhancement of the behavioral effects of Fluoxetine in the forced swimming test gives a new therapeutic strategy against depression Neuropharmacology. 118, pp.233-241. ISSN 0028-3908.

9 **Artículo científico**. Borroto-Escuela DO; Ambrogini P; Narvaez M; et al; Fuxe K. 2021. Serotonin Heteroreceptor Complexes and Their Integration of Signals in Neurons and Astroglia-Relevance for Mental Diseases Cells. 10-8, pp.1902. ISSN 1097-4652.

10 **Artículo científico**. Borroto-Escuela DO; Ferraro L; Beggiato S; et al; Fuxe K. 2021. The coming together of allosteric and phosphorylation mechanisms in the molecular integration of A2A heteroreceptor complexes in the dorsal and ventral striatal-pallidal GABA neurons Pharmacological Reports. 73-4, pp.1096-1108. ISSN 2299-5684.

11 **Artículo científico**. Di Palma M; Lattanzi D; Cuppini R; et al; Ambrogini P. 2020. Evidence for the existence of A2AR-TrkB heteroreceptor complexes in the dorsal hippocampus of the rat brain: Potential implications of A2AR and TrkB interplay upon ageing Mechanisms of Ageing and Development. 190, pp.111289. ISSN 0047-6374.

12 **Artículo científico**. Borroto-Escuela DO; Ferraro L; Narvaez M; Tanganelli S; Beggiato S; Liu F; Rivera A; Fuxe K. 2020. Multiple Adenosine-Dopamine (A2A-D2 Like) Heteroreceptor Complexes in the Brain and Their Role in Schizophrenia Cells. 9-5, pp.1077. ISSN 2073-4409.

13 **Artículo científico**. Borroto-escuela, D; Perez De La Mora , M; Manger , P; et al; Fuxe, Kjell. 2018. Brain Dopamine Transmission in Health and Parkinson's Disease: Modulation of Synaptic Transmission and Plasticity Through Volume Transmission and Dopamine Heteroreceptors Frontiers in Synaptic Neuroscience. ISSN 1663-3563.

14 **Artículo científico**. Feltmann K; Borroto-Escuela DO; Rüegg J; et al; Steensland P. 2018. Effects of Long-Term Alcohol Drinking on the Dopamine D2 Receptor: Gene Expression and Heteroreceptor Complexes in the Striatum in Rats Alcoholism: Clinical and Experimental Research. 42-2, pp.338-351. ISSN 1530-0277.

15 **Artículo científico**. Borroto-escuela, Dasiel O; Narváez M; Ambrogini, Patrizia; et al; Fuxe, Kjell. 2018. Receptor-Receptor Interactions in Multiple 5-HT1A Heteroreceptor Complexes in Raphe-Hippocampal 5-HT Transmission and Their Relevance for Depression and Its Treatment.Molecules. 23-6, pp.E1341. ISSN 1420-3049.

C.3. Proyectos o líneas de investigación

1 **Proyecto**. Interacción GALR2/NPYY1R: Tratamiento para la depresión basado en la neurogénesis. Universidad de Málaga. Manuel Narvaez Pelaez. (Universidad de Málaga). 01/01/2021-31/12/2022. 4.000 €.

2 **Proyecto**. FGFR15-HT1A Heteroreceptor Complexes: Implications for Understanding and Treating MDD. Universidad de Málaga. Manuel Narvaez Pelaez. (Universidad de Málaga). 01/01/2021-31/12/2022. 8.000 €.

3 **Proyecto**. UMA18-FEDERJA-100, GALR2/NPYY1R en la neurogenesis hipocampal: Una posible estrategia terapeutica para la enfermedad de Alzheimer. Junta de Andalucía. Manuel Narvaez Pelaez. (Junta de Andalucía). 01/01/2020-30/11/2022. 32.400 €.

4 **Proyecto**. Papel del heterómero GALR2/NPYY1R en la neurogénesis hipocampal y depresión. Universidad de Málaga. Manuel Narvaez Pelaez. (Universidad de Málaga). 01/01/2019-31/12/2020. 6.000 €.

5 **Proyecto**. Más Neuronas, menos depresión. Universidad de Málaga. Manuel Narvaez Pelaez. (Universidad de Málaga). 01/10/2018-31/12/2020. 1.545 €.

6 **Proyecto**. Nuevas estrategias terapeúticas para los trastornos depresivos: Papel del heterómero GALR2/NPYY1R en la neurogénesis hipocampal. Universidad de Málaga. Manuel Narvaez Pelaez. (Universidad de Málaga). 01/10/2017-31/12/2018. 8.000 €.

7 **Contrato**. Convenio de colaboración con Centro Superior de Formación Europa-Sur SA (CESUR) para la realización del módulo profesional de Tecnico superior en Anatomia PAtologica y Citodiagnostico MANUEL ALEJANDRO NARVÁEZ PELÁEZ. 22/03/2022-20/03/2030.

8 **Contrato**. AGREEMENT OF COLLABORATION BETWEEN KAROLINSKA INSTITUTET AND UNIVERSITY OF MALAGA TO DEVELOP RESEARCH ON THE MOLECULAR INTEGRATION OF SIGNALS IN THE BRAIN VIA RECEPTOR-RECEPTOR INTERACTION IN THE HETERORECEPTOR COMPLEXES AND ITS FUNCTIONAL EFFECTS FOR BRAIN FUNCTION AND INTEGRATION MANUEL ALEJANDRO NARVÁEZ PELÁEZ. 14/02/2022-12/02/2030. 4.000 €.

9 **Contrato**. Horizon Europe as evaluator for the Call 'Marie Skłodowska-Curie Actions Doctoral Networks' (HE-MSCA-DN-2021). MANUEL ALEJANDRO NARVÁEZ PELÁEZ. 21/12/2021-21/02/2022. 2.632 €.

10 **Contrato**. Evaluador Proyecto Consejo Nacional de Ciencia y Tecnología (CONACYT) del Gobierno de Mexico. "Propuesta 217394"Estudio de las propiedades antidepresivas de la capsaicina en un modelo animal de depresion mayor". MANUEL ALEJANDRO NARVÁEZ PELÁEZ. 21/10/2019-20/12/2019. 2.632 €.

11 **Contrato**. Ampliación de la colaboración para la realización de trabajos de asesoramiento técnico y consultoría, consistentes en tareas de consultoría para diagnósticos y tratamientos clínicos y asesoramiento científico MANUEL ALEJANDRO NARVÁEZ PELÁEZ. 01/07/2019-29/06/2022. 9.000 €.

C.4. Actividades de transferencia de tecnología/conocimiento y explotación de resultados

1 **Patente de invención**. MANUEL ALEJANDRO NARVÁEZ PELÁEZ; MIGUEL ANGEL BARBANCHO FERNANDEZ; NATALIA GARCIA CASARES; KJELL FUXE; DASIEL BORROTO ESCUELA. P202030533; WO 2021/245315 A1.. PREVENCIÓN Y/O TRATAMIENTO DEL DETERIORO COGNITIVO ASOCIADO A SÍNDROMES DE DEMENCIA España. 09/12/2021.

2 **Patente de invención**. MANUEL ALEJANDRO NARVÁEZ PELÁEZ; CARMELO MILLÓN PEÑUELA; BELÉN GAGO CALDERÓN; Antonio Flores Burgess; LUIS JAVIER SANTIN NUÑEZ; JOSÉ ÁNGEL NARVÁEZ BUENO; ZAIDA DÍAZ CABIALE. 201500842; WO2017/085350A1. COMBINACIÓN QUE COMPRENDE GALANINA Y [LEU31, PRO34] NPY; USOS Y MÉTODOS (PCT/ES2016/070826, de P201500842) España. 07/11/2018.

3 **Patente de invención**. MANUEL ALEJANDRO NARVÁEZ PELÁEZ; LUIS JAVIER SANTIN NUÑEZ; JOSÉ ÁNGEL NARVÁEZ BUENO; ZAIDA DÍAZ CABIALE. P201631230. Métodos de screening para la identificación de agonistas de receptores de galanina (GALRs), o derivados o fragmentos funcionales de dcihos agonistas, y/o agonistas de receptores del neuropéptido Y (NPYYRs), o derivados o fragmentos funcionales de dichos agonistas, capaces de promover la interacción entre dichos GALR2 y NPYYRs y la formación de complejos de heterorreceptores GALRs/NPYYRs (P201631230, de P201500842) 18/09/2018.

4 **Patente de invención**. Antonio Flores Burgess; CARMELO MILLÓN PEÑUELA; BELÉN GAGO CALDERÓN; MANUEL ALEJANDRO NARVÁEZ PELÁEZ; JOSÉ ÁNGEL NARVÁEZ BUENO; LUIS JAVIER SANTIN NUÑEZ; ZAIDA DÍAZ CABIALE. P201730214; WO2018150073A1. A combination therapy of selective serotonin reuptake inhibitors and GAL(1-15) (P201730214) 22/06/2018.