



## CURRICULUM VITAE (CVA)

**IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.**

### Part A. PERSONAL INFORMATION

CV date	19/01/2023
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First name	Francisco Rafael		
Family name	Nieto López		
Gender (*)	Male	Birth date (dd/mm/yyyy)	30/01/1980
e-mail	fnieto@ugr.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-9555-0651		

(\*) Mandatory

#### A.1. Current position

Position	Associate Professor (Profesor Titular de Universidad)		
Initial date	24/02/2022		
Institution	University of Granada (UGR)		
Department/Center	Pharmacology	<a href="#">Faculty of Medicine</a>	
Country	Spain	Teleph. number	958242086
Key words	Pain, analgesia, sigma-1 receptor, arthritis, neuroinflammation		

#### A.2. Previous positions (research activity interruptions, art. 14.2.b) [Only most relevant]

Period	Position/Institution/Country/Interruption cause
28/12/2020-23/02/2022	Associate Professor (Profesor Contratado Doctor) /UGR/Spain
20/11/2018-27/12/2020	Assistant Professor/UGR/Spain
01/06/2016-31/05/2018	Juan de la Cierva-Incorporación Researcher/UGR/Spain
04/02/2012-03/02/2016	Research Associate Position/King's College London/UK
01/04/2007-30/04/2011	PhD position (FPU grant)/UGR/Spain

#### A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Doctor	University of Granada	2012
Biomedicine MSc Degree	University of Granada	2007
Neurosciences MSc Degree (DEA)	University of Granada	2006
Biology Degree (licenciado)	University of Granada	2004

### Part B. CV SUMMARY (max. 5000 characters, including spaces)

I hold a degree in Biology (2004). I defended my **PhD Thesis** (2012) in the Department of **Pharmacology and Neurosciences** Institute of the University of Granada (UGR), funded by the FPU program. I performed a **postdoctoral** stay at **King's College London** (2013-2016). Later, I returned to the UGR, thanks to the Research National Plan with a "**Juan de la Cierva-Incorporation**" Contract (2016-2018), where I **currently** hold an **Associate Professor** position. I am the author of **33 articles** in international journals. **30** of my articles have been published in journals **in Q1 (91%)**, and **15** of them are in **D1 (50%)** journals (such as Arthritis & Rheumatology, Pain or Pharmacological Research). As indexes of the impact of my research, **14** of my articles have received **more citations than 90% of the works published in the same area in the same year (one of them more citations than 99%)**, according InCites Essential Science Indicators. I have already compiled about 1,600 citations (h-index=20) (JCR), and 2436 (h-index=24) according to Google Scholar. Six of my articles have been commented on editorials or highlighted by the journals in which they have been published, as well as in other dissemination or scientific media. I have presented my work in more than 50 national and international congresses, and I have been **invited to give lectures in national conferences** (including



the Spanish Society of Pain and Spanish network of ion channels). My **research objectives** are to deepen the knowledge of the **pathophysiology of pain and to contribute to the development of new drugs for pain treatment**. During my scientific career, I have studied the **role of sigma-1 receptors in neuropathic pain**, and some of my research has contributed to this receptor being considered an emerging target for the treatment of neuropathic pain. I have also studied the neuroinflammatory mechanisms that contribute to chronic pain. My current goal is to establish a new research line to elucidate the role of the sigma-1 receptor in rheumatoid arthritis pain and to deepen in the neuroinflammatory processes associated. The activities of **transfer of knowledge** have played an important role in my career. I have worked closely with the pharmaceutical industry (Esteve), participating in several research contracts, and in particular, in the development of S1RA, a sigma-1 antagonist currently in phase II clinical trials. In addition, I am the author of **four world (PCT) patents**, and we have another one under review. I collaborate with academic research groups in Europe (University College London, King's College London, Münster University) and in the USA (Harvard). I have **supervised one PhD Thesis** (2019), and I am now supervising two more. I am the **Coordinator of the Neurosciences and Pain Master Degree** at the UGR. I received the **Extraordinary Doctorate Award in Biomedicine** (2011-12) from the UGR and some of my research work has been awarded. I have been **reviewer of international projects, including for the Medical Research Council (UK)**. I am on the editorial board of some JCR journals, such as *Frontiers in Pharmacology* (Associate Editor for Neuropharmacology) or *Frontiers in Neurology* (Review Editor for Headache and Neurogenic Pain). In addition, I have performed tens of reviews for JCR journals such as *Pain*, *Biochem Pharmacol*, *JPET*, *Neuropharmacology*, *Pharmacol Res*, *J Neuroinflammation*, *Sci Rep*, among others.

## **Part C. RELEVANT MERITS** (sorted by typology)

### **C.1. Publications** (the most relevant of the last 10 years)

- Bechthold E, Schreiber JA, Ritter N, Grey L, Schepmann D, Daniliuc C, González-Cano R, **Nieto FR**, Seeböhm G, Wünsch B. Synthesis of tropane-based  $\sigma_1$  receptor antagonists with antiallodynic activity. *Eur J Med Chem*. 230:114113, 2022.

**Impact Factor (JCR): 7.088** **D1** (Medicinal Chemistry) **Citations (JCR): 1**

- Wilke J, Kawamura T, Xu H, Brause A, Friese A, Metz M, Schepmann D, Wünsch B, Artacho-Cordón A, **Nieto FR**, Watanabe N, Osada H, Ziegler S, Waldmann H. Discovery of a  $\sigma_1$  receptor antagonist by combination of unbiased cell painting and thermal proteome profiling. *Cell Chem Biol*. 28(6):848-854.e5, 2021.

**Impact Factor (JCR): 9.039** **Q1** (Biochemistry & Molecular Biology) **Citations (JCR): 4**

- Kopp N, Civenni G, Marson D, Laurini E, Pricl S, Catapano CV, Humpf HU, Almansa C, **Nieto FR**, Schepmann D, Wünsch B. Chemoenzymatic synthesis of 2,6-disubstituted tetrahydropyrans with high  $\sigma_1$  receptor affinity, antitumor and analgesic activity. *Eur J Med Chem*. 2019:113443, 2021.

**Impact Factor (JCR): 7.088** **D1** (Medicinal Chemistry) **Citations (JCR): 5**

- Jiménez-López J, Bravo-Caparrós I, Cabeza L, **Nieto FR**, Ortiz R, Perazzoli G, Fernández-Segura E, Cañizares FJ, Baeyens JM, Melguizo C, Prados J. Paclitaxel antitumor effect improvement in lung cancer and prevention of the painful neuropathy using large pegylated cationic liposomes. *Biomed Pharmacother*. 133:111059, 2021

**Impact Factor (JCR): 7.419** **D1** (Pharmacology and Pharmacy) **Citations (JCR): 17**

Higher number of citations than **99%** of the papers published in the same area and year (InCites).

- Ruiz-Cantero MC, González-Cano R, Tejada MA, Santos-Caballero, M, Perazzoli G, **Nieto FR\***, Cobos EJ\* (\*AC). Sigma-1 receptor: a drug target for the modulation of neuroimmune and neuroglial interactions during chronic pain. *Pharmacological Research* 163: 105339, 2021

**Impact Factor (JCR): 10.334** **D1** (Pharmacology and Pharmacy) **Citations (JCR): 16**

Higher number of citations than 90% of the papers published in the same area and year (InCites).

- Bravo-Caparrós I, Ruiz-Cantero MC, Perazzoli G, Cronin SJF, Vela JM, Hamed MF, Penninger JM, Baeyens JM, Cobos EJ, **Nieto FR**. Sigma-1 receptors control neuropathic pain and macrophage infiltration into the dorsal root ganglion after peripheral nerve injury. *FASEB J*, 34:5951-5966, 2020

**Impact Factor (JCR): 5.192** **Q1** ("Biology") **Citations (JCR): 36**

Article with high diffusion: [UGR news](#), [Ideal](#), [La Vanguardia](#), [ABC](#), [Europa Press](#), [Infosalus](#).

Higher number of citations than 90% of the papers published in the same area and year (InCites).

- González-Cano R, Montilla-García Á, Ruiz-Cantero MC, Bravo-Caparrós I, Tejada MÁ, **Nieto FR**, Cobos EJ. The Search for Translational Pain Outcomes to Refine Analgesic Development: Where Did We Come From and Where Are We Going? *Neurosci Biobehav*, 113:238-261, 2020



**Índice de Impacto (ISI): 8.989**      **D1** (“Neurosciences”)      **Citations (JCR): 17**  
Higher number of citations than 90% of the papers published in the same area and year (InCites).

- Bravo-Caparrós I, Perazzoli G, Yeste S, Cikes D, Baeyens JM, Cobos EJ, **Nieto FR**. Sigma-1 Receptor Inhibition Reduces Neuropathic Pain Induced by Partial Sciatic Nerve Transection in Mice by Opioid-Dependent and -Independent Mechanisms. *Front Pharmacol.* 10:613, 2019

**Impact Factor (JCR): 3.845**      **Q1** (“Pharmacology and Pharmacy”)      **Citations (JCR): 29**  
Higher number of citations than 90% of the papers published in the same area and year.

- Cobos EJ, Nickerson CA, Gao F, Chandran V, Bravo-Caparrós I, González-Cano R, Riva P, Andrews NA, Latremoliere A, Seehus CR, Perazzoli G, **Nieto FR**, Joller N, Painter MW, Ma CHE, Omura T, Chesler EJ, Geschwind DH, Coppola G, Rangachari M, Woolf CJ, Costigan M. Mechanistic Differences in Neuropathic Pain Modalities Revealed by Correlating Behavior with Global Expression Profiling. *Cell Rep.* 22(5):1301-1312, 2018

**Impact Factor (JCR): 7.815**      **Q1** (“Cell Biology”)      **Citations (JCR): 77**  
Awarded by **Grünenthal Foundation** (Basic Research Category, 2018) ([link](#)).

Commented in more than 50 on-line media, including [UGR news](#), [Agencia SINC](#), [20 minutos](#), [Cadena SER](#), [Ideal](#), [Europa Press](#), and also in several press media, such as Ideal and Granada Hoy. These results have been commented in foreign media (e.g. [EurekAlert](#)).

Higher number of citations than 90% of the papers published in the same area and year.

- **Nieto FR**, Clark AK, Grist J, Hathway GJ, Chapman V, Malcangio M. Neuron-immune mechanisms contribute to pain in early stages of arthritis. *J Neuroinflammation* 13:96, 2016

**Impact Factor (JCR): 5.102**      **Q1** (“Neurosciences”)      **Citations (JCR): 68**  
Higher number of citations (41) than 90% of the papers published in the same area and year.

- **Nieto FR**, Clark AK, Grist J, Chapman V, Malcangio M. Calcitonin gene-related peptide-expressing sensory neurons and spinal microglial reactivity contribute to pain states in collagen-induced arthritis. *Arthritis Rheumatol* 67:1668-77, 2015.

**Impact Factor (JCR): 7.470**      **D1** (“Rheumatology”)      **Citations (JCR): 45**

## C.2. Congress (showing only most relevant invited talks)

1. Workshop Inflammation and pharmacological targets: Targeting neuroinflammation for SNC treatment Disorders. Spanish Society of Pharmacology. (25 January, 2023). Title: Neuropathic pain and neuroinflammation: role of sigma-1 receptors.
2. Virtual Congress of Pain. 30th Anniversary of the Spanish Society of Pain. (13-17 October, 2020). Title: Fisiopatología del dolor en la artritis reumatoide: lecciones aprendidas de pacientes y roedores.
3. VII Meeting of the Spanish Network of Ionic Channels. Cáceres (15-17 May, 2019). Title: Voltage-gated sodium channels as pharmacological targets for neuropathic pain relief.
4. XVI Congress of the Spanish Society of Pain. Zaragoza (29 May-1 June, 2019). Title: Aspectos centrales del dolor.

## C.3. Research projects (showing only the most recent ones)

1. PID2021-123058NA-I00. Inhibición del receptor sigma-1 ( $\sigma_1$ ) y de la enzima epóxido hidrolasa soluble: una nueva estrategia para el tratamiento del dolor en la artritis reumatoide. National Plan projects. **PI: FR Nieto**. 01/09/2022-31/08/2025. 96.437 €.
2. B-CTS-642-UGR20. Receptores sigma-1, analgesia opioide endógena y neuroinflamación en la artritis reumatoide. R&D&I Projects within the framework of the FEDER Program of Andalusia. **PI: FR Nieto**. 01/07/2021-30/06/2023. 35.000 €.
3. INTRAIBS-2020-09. Proyecto piloto: receptor sigma-1 e inmunoterapia para el tratamiento del dolor en la artritis reumatoide. Intramural Projects of the Granada Health Research Institute (ibs.GRANADA). **PI: FR Nieto**. 01/01/2021-31/12/2021. 5.000 €.
4. SAF2016-80540-R. Modulación del dolor por los receptores sigma-1 periféricos. National Plan projects (MINECO). PIs: JM Baeyens y EJ Cobos (UGR, in collaboration with Harvard University). 30/12/2016-29/12/2019. 133.100 €. (Researcher)
5. P11-CTS-7649, Nanopartículas de Paclitaxel: Eficacia Antitumoral, Toxicidad e Influencia del Bloqueo de los Receptores Sigma-1. Projects of Excellence of Junta de Andalucía. PI: JM Baeyens. 27/03/2013 al 30/03/2018. 233.242 €. (Researcher)
6. 4272, Mechanisms of pain in inflammatory arthritis: contribution of sensory neurons, dorsal horn neurons and microglia. Arthritis Research UK. PI: M Malcangio. 04/02/2013-03/02/2016. 236.000 pounds. (Researcher)



#### **C.4.1. Contracts, technological or transfer merits [Contracts]**

1. Tareas de ensayos necesarios para la evaluación de un candidato first-in-class para el tratamiento del dolor (Research Contract 5284, OTRI, University of Granada). Fundació Bosch i Gimpera. PI: **FR Nieto** 01/03/2022-31/10/2022. 32.065 €.
2. MuMo 5: modelos traslacionales (Research Contract 4353, OTRI, University of Granada). Esteve Pharmaceuticals. PI: EJ Cobos 01/01/2020-30/06/2020. 36.300 €.
3. Estudio de la eficacia analgésica, el mecanismo de acción y los efectos secundarios de nuevos fármacos. (Research Contract 4203, Fundación Empresa-Universidad de Granada). Esteve Pharmaceuticals. 01/10/2015 al 31/12/2019. 266.208 €. PI: JM Baeyens.
4. Estudio de la eficacia analgésica, el mecanismo de acción y los efectos secundarios de nuevos fármacos. (Research Contract 3820 OTRI, University of Granada). Esteve Pharmaceuticals. 01/01/2017-31/12/2019. 246.840 €. PI: EJ Cobos
5. Evaluación de fármacos analgésicos: mecanismos de acción y efectos adversos (Research Contract OTRI-3000 and extensions, OTRI, University of Granada). Esteve Pharmaceuticals. 01/02/2011-31/01/2017. 400.000 €. PI: JM Baeyens.

#### **C.4.2. Contracts, technological or transfer merits [Patents]**

1. WO2009103487 (A1). Baeyens JM; Buschmann H; Vela JM; Zamanillo D, **Nieto FR**. Use of compounds binding to the sigma receptor for the treatment of neuropathic pain developing as a consequence of chemotherapy. PCT (World). Owner entity: Esteve Pharmaceuticals.
2. WO2011015692 A2. **Nieto FR**; Parra A; Baeyens JM; García-Granados A; Entrena JM; Cobos EJ; Martínez A; Rivas F. Use of maslinic acid for treating nociceptive, inflammatory and neurogenic pain. PCT (World). Owner entity: University of Granada.
3. WO2011018487 (A1). Baeyens JM; Buschmann H; Vela JM; Zamanillo D, **Nieto FR**. Sigma ligands for the prevention or treatment of pain induced by chemotherapy. PCT (World). Owner entity: Esteve Pharmaceuticals.

#### **C.5. PhD Thesis supervised**

1. Inmaculada Bravo Caparrós, 2019. Title: Sigma-1 receptor inhibition ameliorates neuropathic pain induced by nerve transection. (Supervisors: JM Baeyens; **FR Nieto**). Summa Cum Laude. International Doctorate. Awarded “Best Doctoral Thesis” by the Spanish Society of Pain (2020) and by the Royal Academy of Doctors of Spain (2020).

#### **C.6. Awards and honours**

1. Extraordinary Doctorate Award (Biomedicine). Course 2011-2012 (University of Granada)

#### **C.10. Institutional responsibilities**

Coordinator of the Official Master degree “Basic and Applied Neurosciences and Pain”. University of Granada. (01/02/2019-present).

#### **C.11. Reviewer of Research Grants**

1. Reviewer of international projects (3) by invitation. Medical Research Council (UK). 2021
1. Reviewer of international project (1) by invitation. Versus Arthritis Foundation (UK). 2019

#### **C.12. Reviewer of manuscript for JCR journals**

1. Pharmacology and Anesthesiology: Biochem Pharmacol, J Nat Prod, Neuropharmacology, Pain, Front Pharmacol, Eur J Pharmacol, Psychopharmacology, Pharmacol Res, among others.
2. Neurosciences: Life Sci, J Neuroinflammation, Neuroscience, Neurochem Res, among others.
3. Multidisciplinary and others: Sci Rep, PLOS ONE, Immunology, Gene Therapy, among others.

#### **C.13. Editorial activities**

1. Guest Associate Editor (since 2017) and Associate Editor (since 2022) of *Frontiers in Pharmacology*.
2. Review Editor (since 2021) of *Frontiers in Neurology*.