

CURRICULUM VITAE ABREVIADO (CVA)

Personal

information

First name	Antonio		
Family name	Ferrer Montiel		
Gender	Male		
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-2973-6607		

Current position

Position	Full Professor of Biochemistry and Molecular Biology		
Initial date	2007		
Institution	Universitas Miguel Hernández		
Department/Center	Director of the Institute of Research, Development, and Innovation in Healthcare Biotechnology (IDiBE)		
Country	Spain		
Key words	chronic pain and pruritus, drug discovery, ion channels, nociceptors		

Previous positions

Period	Position/Institution/Country
1998-2007	Associate Professor/UMH/Spain
1996-1997	Assistant project scientist / UCSD/ USA
1994-1996	Postgraduate researcher / UCSD/ USA
1993-1994	NATO fellowship / UCSD / USA
1990-1993	MEC fellowship / UCSD / USA

Education

Grade	University	Year
PhD Chemistry	Universidad de Alicante (Spain)	1989
Bs/Ms Chemistry	Universidad de Alicante (Spain)	1985

Summary.

Prof. Antonio Ferrer, Ph.D. in Chemistry, held a postdoctoral position in the departments of Physics and Biology at UCSD (1990-1997). In 1998, he started an independent career at UMH in the field pharmaceutical biophysics of ion channel, including drug discovery and development. In 2011, he was named director of the Institute of Molecular and Cellular Biology (IBMC) to develop a program in translational research in biotechnology and biomedicine. In 2018, he promoted the [transformation](#) of IBMC into a research Institute centered in [Healthcare Biotechnology \(IDiBE\)](#). He has centered his career in a bench to the bedside research program on peripheral neuropathies. He aimed to understanding how sensory ion channels work in terms of their underlying protein structure, and to use this knowledge to develop modulators that can be used as pharmacological and therapeutic tools. Currently, his research is focused on understanding basis of the strong sex dimorphism in chronic migraine, as well as in chemotherapy induced peripheral neuropathy (CIPN). These studies include discovering and developing novel migraine and CIPN therapeutics. **Major milestones** in his research career are:

(i) **Science productivity**: 170 publications, 86% in Q1, H-index 45, 6.610 citations, 46 competitive projects. ([Google scholar](#)) ([Scopus](#))

(ii) **Training**: 25 doctoral theses with topmost mark; 5 theses ongoing; 30 master theses; teaching Biotechnology degree, Biotechnology and Bioengineering Master and The European Master of Science in Skin Health and Care ([EMOTION](#)).

(iii) **Clinical translation**: ophthalmological formulation for dry eye successful phase III clinical trial by Alcon (FDA, 2024); a modulator of neuronal exocytosis in phase II clinical trials for chronic post-surgical pain; TRPV1 antagonist in preclinical development for psoriasis; and, topical formulation for chemotherapy neuropathy successful phase IIb clinical study in cancer therapies (CIPN, Oncapsis®).

(iv) **Technology transfer and exploitation**: 20+ patents in exploitation, 20 products marketed, and founder of 4 spin-off/start-up biotech companies.

(v) **Internationalization**. Member of University of Bath Court. Member of FEBS Finance committee; National representative in international committees (FEBS, IUPAB, IUBMB); Member of EU framework programs evaluator panels. Co-coordinator of MoU IDiBE-CTI University of Bath.

(vi) **R&D Management**. Manager Spanish R&D biomedicine program; director of IBMC & IDiBE, member of the UMH Governance Committee and UMH Foundation Patronage; coordinator of National Ion channel network (RECI).

(vii) **Science dissemination**: Editor SEBBM journal, coordinator Science with tapas, and biophysics week; scientific societies management (Spanish Biochemical Society and Spanish Biophysical Society),

and mentorship of young researchers (Biophysical Society (USA) and Society for Neurosciences (USA)). Associate editor J. Neuroscience (2019-2024).

[Relevant publications \(last 10 years; see complete list at this pubmed link\)](#)

1. Hingorani S, Paniagua Soriano G, Sánchez Huertas C, Villalba Riquelme EM, López Mocholi E, Martínez Rojas B, Alastrué Agudo A, Dupraz S, Ferrer Montiel A, Moreno Manzano V. [Transplantation of dorsal root ganglia overexpressing the NaChBac sodium channel improves locomotion after complete SCI](#). *Mol Ther*. 2024 Mar 30;S1525-0016(24)00216-8. doi: 10.1016/j.ymthe.2024.03.038.
2. Butron L, Nikolaeva-Koleva M, Sempere A, Rivero V, Fernandez-Ballester G, Espinosa A, Vergassola M, Mastrocola E, Zucchi S, Ragni L, Fernández-Carvajal A, Mangano G, Ferrer-Montiel A, Devesa I. [Design and validation of neuronal exocytosis blocking peptides as potential novel antiperspirants](#). *Exp Dermatol*. 2023 Jul;32(7):999-1006.
3. Giorgi S, Lamberti A, Butrón L, Gross-Amat O, Alarcón-Alarcón D, Rodríguez-Cañas E, Fernández-Carvajal A, Ferrer-Montiel A. [Compartmentalized primary cultures of dorsal root ganglion neurons to model peripheral pathophysiological conditions](#). *Mol Pain*. 2023 Jan-Dec;19:17448069231197102.
4. Cabañero D, Villalba-Riquelme E, Fernández-Ballester G, Fernández-Carvajal A, Ferrer-Montiel A. [ThermoTRP channels in pain sexual dimorphism: new insights for drug intervention](#). *Pharmacol Ther*. 2022 Dec;240:108297.
5. Alarcón-Alarcón D, Cabañero D, Andrés-López J, Nikolaeva-Koleva M, Giorgi S, Fernández-Ballester G, Fernández-Carvajal A, Ferrer-Montiel A. [TRPM8 contributes to sex dimorphism by promoting recovery of normal sensitivity in a mouse model of chronic migraine](#). *Nat. Commun*. 2022, 13, 6304.
6. Villalba-Riquelme E, de la Torre Martinez R, Fernández-Carvajal A, Ferrer-Montiel A. [Paclitaxel in vitro reversibly sensitizes the excitability of IB4\(-\) and IB4\(+\) sensory neurons from male and female rats](#). *Br. J. Pharmacol*. 2022, 179, 3693.
7. Nikolaeva-Koleva M, Butron L, González-Rodríguez S, Devesa I, Valente P, Serafini M, Genazzani AA, Pirali T, Ballester GF, Fernández-Carvajal A, Ferrer-Montiel A. [A capsaicinoid-based soft drug, AG1529, for attenuating TRPV1-mediated histaminergic and inflammatory sensory neuron excitability](#). *Sci Rep*. 2021 Jan 8;11(1):246. doi: 10.1038/s41598-020-80725-z.
8. Cabañero D, Ramírez-López A, Drews E, Schmöle A, Otte DM, Wawrzczak-Bargiela A, Huerga Encabo H, Kummer S, Ferrer-Montiel A, Przewlocki R, Zimmer A, Maldonado R. [Protective role of neuronal and lymphoid cannabinoid CB₂ receptors in neuropathic pain](#). *Elife*. 2020 Jul 20;9:e55582. doi: 10.7554/eLife.55582.
9. Fernández-Carvajal A, González-Muñiz R, Fernández-Ballester G, Ferrer-Montiel A. [Investigational drugs in early phase clinical trials targeting thermotransient receptor potential \(thermoTRP\) channels](#). *Expert Opin Investig Drugs*. 2020 Nov;29(11):1209-1222. doi: 10.1080/13543784.2020.1825680. Epub 2020 Sep 29.
10. Serafini M, Griglio A, Aprile S, Seiti F, Travelli C, Pattarino F, Grosa G, Sorba G, Genazzani AA, Gonzalez-Rodriguez S, Butron L, Devesa I, Fernandez-Carvajal A, Pirali T, Ferrer-Montiel A. [Targeting Transient Receptor Potential Vanilloid 1 \(TRPV1\) Channel Softly: The Discovery of Passerini Adducts as a Topical Treatment for Inflammatory Skin Disorders](#). *J Med Chem*. 2018 May 24;61(10):4436-4455. doi: 10.1021/acs.jmedchem.8b00109. Epub 2018 May 15.
11. Mathivanan S, Devesa I, Changeux JP, Ferrer-Montiel A. [Bradykinin Induces TRPV1 Exocytotic Recruitment in Peptidergic Nociceptors](#). *Front Pharmacol*. 2016 Jun 23;7:178. doi: 10.3389/fphar.2016.00178. eCollection 2016.
12. Ciardo MG, Andrés-Bordería A, Cuesta N, Valente P, Camprubí-Robles M, Yang J, Planells-Cases R, Ferrer-Montiel A. [Whirlin increases TRPV1 channel expression and cellular stability](#). *Biochim Biophys Acta*. 2016 Jan;1863(1):115-27. doi: 10.1016/j.bbamcr.2015.10.016. Epub 2015 Oct 26.
13. Caires R, Luis E, Taberner FJ, Fernandez-Ballester G, Ferrer-Montiel A, Balazs EA, Gomis A, Belmonte C, de la Peña E. [Hyaluronan modulates TRPV1 channel opening, reducing peripheral nociceptor activity and pain](#). *Nat Commun*. 2015 Aug 27;6:8095. doi: 10.1038/ncomms9095..
14. Devesa I, Ferrándiz-Huertas C, Mathivanan S, Wolf C, Luján R, Changeux JP, Ferrer-Montiel A. [αCGRP is essential for algesic exocytotic mobilization of TRPV1 channels in peptidergic nociceptors](#). *Proc Natl Acad Sci U S A*. 2014 Dec 23;111(51):18345-50. doi: 10.1073/pnas.1420252111. Epub 2014 Dec 8.

[Relevant conferences \(out of +100\)](#)

1. February 2011. Workshop: Trends and Challenges in Ion Channel Research: TRPducins a novel paradigm to modulate ion channel activity. Tenerife (Spain).

2. July 2012. XII Congress Sociedad de Biofísica de España. Keynote Lecture Premio Brucker: Structure-function relationships in a thermoTRP channel. Barcelona (Spain).
3. September 2012. 22nd IUBMB and 37th FEBS Meeting. Conference: TRPducins: a novel paradigm to modulate ion channel signaling. Sevilla (Spain).
4. October 2013. 36º Congreso Nazionale de la Società Italiana di Farmacologia. Plenary lecture: 'Thermo-TRP inhibition: novel strategies to treat pain and more'. Torino.
5. June 2017, 37th Congreso de la Sociedad Española de Farmacología/British Pharmacology Society. A novel pharmacological paradigm for chronic pain. Barcelona.
6. February 2019, 4th German Pharm-Tox Summit. Soft drugs as a novel pharmacological paradigm for TRP channels. Stuttgart.
7. June 2021. 20th FEBS Young Scientists' Forum by inspiring scientists. 'Start-ups and their relation with science'
8. December 2022. 3rd Skin@Bath Network Symposium. Skin sensory dysfunction produced by chemotherapeutic drugs. Bath. UK.

Relevant congress organization (+20)

1. 3rd Workshop in the biophysics and molecular biology of ion channels and transporters. Imola, Italy, September 5-8th, 2011.
2. XIII Iberian Peptide Meeting. Alicante. Spain. February 1-3, 2012.
3. International Symposium on Transient Receptor Potential channels. Valencia, Spain. September 12-14, 2012.
4. 22nd IUBMB and 37th FEBS Congress. Seville, Spain. September 4-9, 2012.
5. 5th International Iberian Biophysics Congress. Porto. Portugal. June 15-17, 2016.
6. 16th International Congress SBE. Seville. June 6-9, 2017
7. 6th International Iberian Biophysics Congress/X Iberoamerican Congress of Biophysics. Castellón. June 20-22, 2018.
8. Joint 12TH EBSA /10TH ICBP-IUPAP Biophysics Congress. July 20-24, 2019. Madrid.

Relevant R&D projects (out of 40+)

- 2008-2014: The Spanish Ion Channel Initiative. CONSOLIDER-INGENIO Excellence program 2010. MICINN, CSD2008-00005. Consortium of 26 groups from 14 institutions. Role: Coordinator; Budget: 6.000.000€; UMH: 781.000€.
- 2016-2018: Algesic sensitization of nociceptors in chronic pain: mechanisms and pharmacological modulation. MINECO, SAF2015-66275-C02-01. Role: Coordinator. Budget UMH: 300.000€.
- 2018-2021 Validation and pre-clinical development of drug candidates for arthritic pain. MCIU, RTC-2017-6507-1, Role, IP; Budget UMH: 169.054€
- 2019-2022 A preclinical in vitro model of human nociceptors for investigating the sexual dimorphism in chronic migraine and screen for drug candidates (Headache). MCIU, RTI2018-097189-B-C21. Role: Coordinator; Budget UMH: 328.000€.
- 2021-2024 Nanoparticle-based imaging and therapy of chronic pain in the dorsal root ganglia. MSCA-ITN-2019 (nº 956477). Role: IP; Budget, 250.000€.
- 2021-2024 Chemotherapy-Induced neuropathy: pathophysiology, sex dimorphism and therapeutic intervention. PROMETEO/2021/031. Role: IP; Total budget, 599.960€.
- 2022-2025 Sexual dimorphism in migraine: thermoTRPs as targets for hormones and drugs. PID2021-126423OB-C21. Role: coordinator. Total Budget. 399.300€

Relevant R&D contracts (out of 20+)

- 2006-2017: Identification y validation de cosmetic products. DIVERDRUGS. Budget: 850,000€
- 2008-2012: Development of compounds able to induce reading of premature termination of codons (PTCs). BCN PEPTIDES. Budget UMH: 399.350€.
- 2015-2016. Optimization the expression and purification of recombinant peptides from the venom of *Rhopalurus junceus* in bacteria and characterization of their activity. LABIOFAM. Budget: 208.846€.

Relevant patents and IPR (30+, www.worldwide.spacenet.com)

1. Cristina Carreño, Berta Ponsati, Wim Van Den Nest, Jimena Fernández, María Camprubí Robles, Antonio Ferrer-Montiel. Compositions for the treatment of pain and/or inflammation. WO2010/009892 A2. Parentide. Clinical development (Phase II). BCN Peptides.
2. Antonio Ferrer-Montiel, Asia Fernández-Carvajal, Carlos Belmonte Martínez, Félix Viana, Juana Gallar, Pharmaceutical composition for the treatment of dry eye. WO2012/032209 A3. Clinical development dry eye (FDA registration). Alcon.



3. Antonio Ferrer Montiel, Gregorio Fernández Ballester, José María García Antón, Cristina Carreño, Núria Almiñana, Raquel Delgado. Compounds which inhibit neuronal exocytosis. WO2013153196 (A1). Cosmeceutical development. L'OREAL/Lipotec.
4. Antonio Ferrer Montiel, Asia Fernández Carvajal, Isabel Devesa, Tracey Pirali, Armando Genazzani. TRPV1 modulator compounds. (EP3621950B1). Preclinical development for psoriatic pruritus; and cosmeceuticals for sensitive skin and hair care. AntalGenics SL.
5. Antonio Ferrer Montiel, Gregorio Fernández Ballester, Isabel Devesa. PCT/EP2024/087437 (2023). Phospholipase C inhibitor peptides and uses thereof.

Entrepreneurship

- 1999-2012: Founder and CSO of DiverDrugs SL (Barcelona) (acquired by Lubrizol, 2012)
- 2014-present: Founder and President of [Prospera Biotech SL](#) (Elche)
- 2015-present: Founder and President of [AntalGenics SL](#) (Elche)
- 2015-present: Founder and President of [Hawk Biosystems SL](#) (Bilbao)

Awards

- 2002: BECKMAN-COULTER award of the Spanish Biochemical Society.
- 2002: IX ALBERTO SOLS best scientific paper award.
- 2002: FUNDACIÓN GRÜNENTHAL-UNIVERSIDAD DE SALAMANCA pain research award.
- 2005: IX FUNDACIÓ ESTEVE pain research award.
- 2007: III UMH SOCIAL COUNCIL award.
- 2012: BRUCKER AWARD OF the Spanish Biophysics Society
- 2020: XVIII ALBERTO SOLS award to an outstanding preclinical research career.

Scientific Societies & Foundations

- 2007-2010 Council of the Spanish Biochemical Society ([SEBBM](#))
- 2007-2010 Council of the Spanish Biophysics Society ([SBE](#))
- 2012-2014 President- elect of the Spanish Biophysics Society
- 2014-2018 President of the Spanish Biophysics Society
- 2022-2024 President-elect of the Spanish Biochemical Society
- 2024-2028 President of the Spanish Biochemical & Molecular Biology Society
- 2025- President of SEBBM Foundation

National and international Committees

- 2007-2010 Spanish committee of IUBMB
- 2007-2016 Spanish committee of IUPAB
- 2008-present Spanish Network Ion channels
- 2016-2023 UMH Governance
- 2018-present UHM Foundation Patronage
- 2021-2024 University of Bath Court
- 2018-present CTI External Advisory Board
- 2023-2024 FEBS MSR
- 2024-2026 FEBS Finance committee
- 2024-2028 FEBS Council

R&D management.

- 2007-2012. Management of the National Biomedicine Plan (Neurobiology and pharmacology programs). Ministry of Research and Innovation.
- 2016-2021. Coordinator of the Diagnostics, prognostic and therapeutic tools (DPT) of National Biomedicine Plan. National Agency for Research.

R&D dissemination.

- 2020-2024. Editor SEBBM magazine.
- 2018-present. Associate editor Journal of Neurosciences & Frontiers in Pharmacology.

Menthorship

- 2016-present. Menthor of Bind 4.0 Basque Country Innovation platform.
- 2019-present. Marathon UMH foundation menthor of entrepreneurial program.
- 2020-present. Journal of Neuroscience (SFN) reviewer menthor program.
- 2022-present. Biophysical Society menthor program.