

CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	Francisco		
Family name	Pérez Vizcaíno		
Gender (*)	Male	Birth date	28/08/1966
ID number	02872927C		
e-mail	fperez@med.ucm.es	https://www.ucm.es/farmatox/farmacologia-vascular-factores-vasoactivos	
Open Researcher and Contributor ID (ORCID)	0000-0001-6309-7418		

A.1. Current position

Position	Catedrático (full profesor)		
Initial date	2016		
Institution	Universidad Complutense de Madrid		
Department/Center	Dept. Farmacología y Toxicología	Facultad de Medicina	
Country	Spain	Telephone	9134947228
Key words	Vascular Pharmacology, pulmonary circulation		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2002-2016	Associate professor (Prof. Titular)
1999-2002	Assistant professor (Profesor asociado)
1992-1999	Postdoctoral scientist
1990-1992	PhD student

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Graduate, Pharmacy	Universidad Complutense de Madrid	1989
PhD, Pharmacy	Universidad Complutense de Madrid	1992

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

Positive 6-year research evaluated periods (*sexenios*): 5 / 5. **Doctoral thesis:** total 21. Last 10 years: 8 (7 International mention and 5 extraordinary price). **PubMed papers:** 2020-2024: 43 (D1:39%, Q1:93%); 2014-2024: 83; 1991-2024:209. **Citations:** 8325 (WOS), 9260 (Scopus), 13276 (Google Scholar). **H index:** 49 (WOS), 53 (Scopus), 61 (Google Scholar). **Projects:** 8 National projects (CICYT/Micinn) as PI. Included in the **2024 Stanford's list World Top 2% scientists**.

Early work. Supervised by Prof. J Tamargo at UCM, he characterized the vascular effects of antidepressants and antiarrhythmics. He carried out a predoctoral stay (Prof. U Rüegg, Lab Sandoz, Basel 1991, mechanisms of selectivity of Ca²⁺ antagonists; Pérez-Vizcaíno et al, J Cardiovasc Pharmacol 1993) and two postdoctoral fellowships with Prof Sir John Vane (Nobel laureate) and T Warner (William Harvey Res Inst, London 1993 and 2004, publications: Perez-Vizcaino et al. Br J Pharmacol 1995, Perez-Vizcaino et al. BBRC, 2006). Later he began the line of research in pulmonary vascular pharmacology and pathophysiology to study mediators and mechanisms involved in the regulation of neonatal pulmonary vasculature.

Work as PI. In 2002-03 started his period as independent PI (8 National MICINN, 1 European and 1 CAM projects). Among the most representative milestones is the characterization of the molecular mechanisms of Kv channel blockade and pulmonary vasoconstriction of 5-HT and TXA₂ (Circ Res 2003; Circ Res 2006), the role of sphingolipids in hypoxia (Cardiovasc Res 2009, Am J Physiol 2011; J Cell Physiol. 2011; Antiox Redox Signal 2014) and the vascular alterations of the pulmonary circulation associated with diabetes (J Pharmacol Exp Ther 2011, Respir Res. 2011; PLoS One. 2019; Cardiovasc

Res. 2015). In collaboration with Prof Duarte, he also made some seminal contributions describing the vascular and antihypertensive effects of flavonoids with 25 papers with more than 100 citations each.

In recent years, Perez-Vizcaino has focused part of his research on vitamin D deficiency in experimental and human pulmonary hypertension and erectile dysfunction with some key contributions both in molecular signalling, animal models and epidemiology in several research articles, reviews and editorials (Arch Bronconeumol 2023, Int J Mol Sci 2023, Am J Respir Cell Mol Biol 2022, Eur Respir J 2021, Biomolecules 2021, Am J Physiol Lung Cell Mol Physiol 2020;2024, J Clin Med. 2020, Nutrients 2020, Nutrients. 2019; Br J Pharmacol 2024). All these studies indicate that deficiency of vitamin D has a pathophysiological role and a negative impact on survival and in therapeutic failure of PDE5i. This work has culminated in the launching of the clinical trial to restore vitamin D in pulmonary arterial hypertension (AES ISCIII, ICI23/00001) led by Perez-Vizcaino and DA Rodríguez-Chiaradia and to be carried out in nine Spanish hospitals and with an international patent on vitamin D regulated proteins as therapeutic strategy for erectile dysfunction (PCT/IB2024/000094).

Prof. Pérez-Vizcaino's group also includes another full professor, two associate professors, four assistant professors, three postdoc and three PhD students. He is also very active in recruiting international pre-graduate researchers. The group is member of the Ciberes network and consolidated group at Research Institute IISGM.

Management. At the School of Medicine (UCM), Prof. Pérez Vizcaino has been Erasmus coordinator (2002-2012), Vice-Dean of Research (2012-2020), Head of Department of Pharmacology and Toxicology (2022-present). He was coordinator of the Doctorate Commission (2012-2016) and launched the PhD program on Biomedical Research and is currently coordinating the future new bachelor degree on Biomedical Sciences (School of Medicine, UCM). He is currently member of the steering committee of Ciberes (2015-present) and Coordinator of the National program of Diffuse Respiratory Diseases in Ciberes. He has been member of the Delegate Commission of Instituto de Investigación Sanitaria San Carlos (IDISCC). He has also been member of the Committee for the professorship accreditation of Castilla y Leon (ACSUCYL, 2010-2021) and member of multiple panels in National and International commissions for research evaluation. He works in close relationship with the **patient association**, Fundación contra la Hipertensión Pulmonar (Empathy project) and member of its Scientific Committee. Grant evaluator for national agencies: NRC (Singapur), STAA (Eslovaquia), BLF (UK), NRA (France), Royal Society (New Zealand), FCT (Portugal), ASF (Austria).

Training. Among the 21 PhD students supervised, 3 are Italian, 1 Dutch and 1 Mexican. Six of them are currently full(2)/ associate(3)/ assistant(1) professors, 5 are currently working for European or National drug/food/research agencies, 5 are postdoc researchers and others are clinical fellows.

International. Among the papers indexed in WOS by Perez-Vizcaino F, 38 are coauthored with authors from Netherlands, 25 from UK, 14 from France, 13 from USA, 7 from Mexico, 5 from Denmark, 6 from Germany, 5 from Portugal, 4 from Italy and 3 from Canada.

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

C.1. Publications (AC, author for correspondence)

Original Research (all D1, except selected *Q1)

Olivencia O, Climent B, Barreira B, ..11 auth., Perez-Vizcaino F (AC). Vitamin D Deficiency Induces Erectile Dysfunction: Role of Superoxide and Sipi. Br J Pharmacol, in press.

Callejo M, Morales-Cano D, Olivencia MA, Mondejar-Parreño G, ..9 auth., Perez-Vizcaino F (AC). Vitamin D receptor and its antiproliferative effect in human pulmonary arterial hypertension. Sci Rep*. 2024;14(1):27445

Olivencia MA, Gil de Biedma-Elduayen L, Giménez-Gómez P, ..., Perez-Vizcaino F (AC). Oxidized soluble guanylyl cyclase causes erectile dysfunction in alcoholic mice. Br J Pharmacol 2023;180:2361-2376.

Milara J, Roger I, Montero P, Artigues E, Escrivá J, Perez-Vizcaino F, Cortijo J. Targeting IL-11 system as a treatment of pulmonary arterial hypertension. Pharmacol Res. 2023;197:106985.

Olivencia MA, Esposito E, Brancaleone V, ..., Pérez-Vizcaino F (6/9),..., Mitidieri E. Hydrogen sulfide regulates the redox state of soluble guanylate cyclase in CSE-/- mice corpus cavernosum microcirculation. Pharmacol Res. 2023;194:106834.

- Vera-Zambrano A, Baena-Nuevo M, Rinné S,... Pérez-Vizcaino F (11/13), ..., Cogolludo A. Sigma-1 receptor modulation fine-tunes KV1.5 channels and impacts pulmonary vascular function. *Pharmacol Res* 2023 189:106684.
- Villegas-Esguevillas M, Cho S, Vera-Zambrano A, ..., Pérez-Vizcaíno F, .., Cogolludo A. The novel KV7 channel activator URO-K10 exerts enhanced pulmonary vascular effects independent of the KCNE4 regulatory subunit. *Biomed Pharmacother* 2023;164:114952.
- García-Díez E, López-Oliva ME, Perez-Vizcaino F, Pérez-Jiménez J, Ramos S, Martín MÁ. Dietary Supplementation with a Cocoa-Carob Blend Modulates Gut Microbiota and Prevents Intestinal Oxidative Stress and Barrier Dysfunction in Zucker Diabetic Rats. *Antioxidants (Basel)*. 2023;12:1519.
- Olivencia MA, Esquivel-Ruiz S, Callejo M, Mondéjar-Parreño G, Quintana-Villamandos B, Barreira B, Sacedón R, Cogolludo A, ..., Pérez Vizcaíno F (AC). Cardiac and Pulmonary Vascular Dysfunction in Vitamin D-Deficient Bmpr2-Mutant Rats. *Am J Respir Cell Mol Biol**. 2022 Sep;67(3):402-405.
- García-Díez E, López-Oliva ME, Caro-Vadillo A, Pérez-Vizcaíno F,..., Martín MÁ. Supplementation with a Cocoa-Carob Blend, Alone or in Combination with Metformin, Attenuates Diabetic Cardiomyopathy, Cardiac Oxidative Stress and Inflammation in Zucker Diabetic Rats. *Antioxidants (Basel)*. 2022;11(2):432
- Callejo M, Blanco I, Barberá JA, Perez-Vizcaino F (AC). Vitamin D deficiency, a potential cause for insufficient response to sildenafil in pulmonary arterial hypertension. *Eur Respir J* 2021;58:2101204.
- Morales-Cano D, Barreira B, Navarro BO, Callejo M, Mondejar-Parreño G, Esquivel-Ruiz S, Lorente JA, Moreno L, Barberá JA, Cogolludo Á, Perez-Vizcaino F (AC). Oxygen-sensitivity and Pulmonary Selectivity of Vasodilators as Potential Drugs for Pulmonary Hypertension. *Antioxidants (Basel)*. 2021 21;10:155.
- Callejo M, Mondejar-Parreño G, Morales-Cano D, Barreira B, Esquivel-Ruiz S, ..., Perez-Vizcaíno F (AC). Vitamin D deficiency downregulates TASK-1 channels and induces pulmonary vascular dysfunction. *Am J Physiol Lung Cell Mol Physiol**. 2020 Oct 1;319(4):L627-L640.
- Pérez-Vizcaíno F (AC). Lung ACE2 and ADAM17 in pulmonary arterial hypertension: Implications for COVID-19? *J Heart Lung Transplant*. 2020;39:1167-1169.
- Mondéjar-Parreño G, Barreira B, Callejo M, Morales-Cano D, Barrese V, Esquivel-Ruiz S, , ..., Perez-Vizcaino F, Cogolludo A. Uncovered Contribution of Kv7 Channels to Pulmonary Vascular Tone in Pulmonary Arterial Hypertension. *Hypertension* 2020;76:1134-1146.
- Callejo M, Mondejar-Parreño G, Esquivel-Ruiz S,..., Perez-Vizcaino F (AC). Total, Bioavailable, and Free Vitamin D Levels and Their Prognostic Value in Pulmonary Arterial Hypertension. *J Clin Med**. 2020;9:448.
- González-Tajuelo R, de la Fuente-Fernández M, Morales-Cano D, ..., Pérez-Vizcaíno F, ..., Urzainqui A. Spontaneous Pulmonary Hypertension Associated With Systemic Sclerosis in P-Selectin Glycoprotein Ligand 1-Deficient Mice. *Arthritis Rheumatol*. 2020;72:477-487.
- Mondéjar-Parreño G, Moral-Sanz J, Barreira B, ..., Perez-Vizcaino F, Cogolludo A. Activation of Kv 7 channels as a novel mechanism for NO/cGMP-induced pulmonary vasodilation. *Br J Pharmacol*. 2019 Jul;176(13):2131-2145.
- Mondejar-Parreño G, Callejo M, Barreira B,..., Perez-Vizcaino F (AC). miR-1 is increased in pulmonary hypertension and downregulates Kv1.5 channels in rat pulmonary arteries. *J Physiol** 2019;597:1185-1197.

Reviews (all D1, except selected Q1*)

- Saint-Martin Willer A, Santos-Gomes J, Adão R,..., Pérez-Vizcaino F,..., Antigny F. Physiological and pathophysiological roles of the KCNK3 potassium channel in the pulmonary circulation and the heart. *J Physiol** 2023;601:3717-3737
- Kumar R, Aktay-Cetin Ö, Craddock V, ..., Perez-Vizcaino F, ..., Dhillon NK. Potential long-term effects of SARS-CoV-2 infection on the pulmonary vasculature: Multilayered cross-talks in the setting of coinfections and comorbidities. *PLoS Pathog*. 2023;19(1):e1011063.
- Mondéjar-Parreño G, Cogolludo A, Perez-Vizcaino F (AC). Potassium (K+) channels in the pulmonary vasculature: Implications in pulmonary hypertension Physiological, patho-physiological and pharmacological regulation. *Pharmacol Ther*. 2021;225:107835.

Letters and editorials (all D1)

Perez-Vizcaino F (AC), Barberá JA, Rodríguez Chiaradía DA. Vitamin D and Pulmonary Arterial Hypertension. Arch Bronconeumol. 2023 Nov 9:S0300-2896:00370-8.

Perez-Vizcaino F (AC), Mondejar-Parreño G. Antiproliferative miR-212-5p: Promising RNA therapy for pulmonary hypertension. Mol Ther Nucleic Acids. 2022;29:689-690.

Perez-Vizcaino F (AC), Moreno L, Lorente JA. Interleukin-6 and intrapulmonary shunt. Eur Respir J. 2021 Aug 12;58(2):2101292.

C.2. Congress (All are invited conferences/invited symposiums presented by the PI)

Pulmonary hypertension in humans: a pathophysiological perspective. 3rd International meeting of the Portuguese Society of Physiology. Oporto. Nov 2024

Vitamina D en la hipertensión pulmonar: factor pronóstico y predictor de respuesta terapéutica. Congreso Ciber, Valencia Nov 2024.

Erectile dysfunction induced by Vitamin D deficiency and alcoholism. Symposium: Erectile Dysfunction: Mechanisms and Therapeutic Strategies: State of the Art. EPHAR Congress 2024. June. Athens

Mecanismos moleculares en la HAP y estrategias terapéuticas. Opening lecture. Bodas de diamante del Instituto Boliviano de Altura. La Paz Bolivia. April 2023.

Vitamin D in pulmonary hypertension. Invited seminar. Servicio de Neumología, Hospital del Mar, Barcelona. Junio 2023.

The role of ACE2 on COVID-19 and its effects on long term pulmonary vascular diseases. 16th Pulmonary vascular Res Inst. Annual congress. Atenas, June 2022. Invited conference.

Vitamin D in pulmonary hypertension. Invited seminar. Hospital Clinic Barcelona, Barcelona. 2020.

Microbiota in pulmonary hypertension. 15th Pulmonary vascular Research Institute annual congress. Lima, Perú. 2020. Invited conference.

Vitamin D in pulmonary hypertension. Pulmonary Vascular Research Institute Annual World Congress. Enero, Barcelona 2019. Invited conference.

Vitamin D in pulmonary hypertension. Sickkids Hospital Research Institute. Invited Speaker Seminar Series. Oct 23rd 2019 Toronto, Canadá. Invited conference.

Drugs for pulmonary hypertension: old stories of partial success, partial failure and new perspectives". Joint Meeting British Pharmacological-Sociedad Española de Farmacología. Symposium Barcelona Junio 2017. Invited conference.

C.3. Research projects

Early grants as PI: AGL2004-06685-C04-01 (Coordinator), SAF2005-03770, AGL2007-66108-C04-01 (Coordinator), SAF2008-03948, SAF2011-282150, SAF2014-55399, SAF2016-77222R.

Ciber Enfermedades Respiratorias CB06/06/1084 (Ciberes, 2007-). IP group 28: FPV.

PID2019-107363RB-I00. Papel de la vitamina D y la microbiota en la hipertensión pulmonar y en la disfunción eréctil. 01/06/2020-31/05/2024.

S2022/BMD-7245 CARDIOBOOST. Consorcio CAM. IP Miguel torres (CNIC), IP nodo UCM FPV, 2022-26.

H2020 MSCA-COFUND-2018. UNA4CAREER - GA No 847635. 2022-2025.

C.4. Contracts, technological or transfer merits,

NCBI/GEN Bank sequences: AY661709.1; GQ404557.1, GU992201.1

International PCT/IB2024/000094 Methods for the prevention or treatment of erectile dysfunction by administering slpi.