MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE (CVA)

PERSONAL INFORMATION

CV date	JUL 2022

First name	Mario		
Family name	Delgado Mora		
Gender (*)	Male	Birth date (dd/mm/yyyy)	1969
Social Security, Passport, ID number	DNI:		
e-mail	mdelgado@ipb.csic.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-1893-5982	

(*) Mandatory

A.1. Current position

Position	Full Professor CSIC		
Initial date	May 2009		
Institution	Consejo Superior de Investigaciones Científicas (CSIC)		
Department/Center	Cell Biology and Immunol	Instit of Parasitology and Biomedicine Lopez-Neyra	
Country	Spain	Teleph. number	958181665
Key words	Immunology, Neuroimmunology, Inflammation, Autoimmune		

A.2. Previous positions

Period	Position/Institution/Country/Interruption cause
2003-2009	Cientifico Titular e Investigador Científico IPBLN-CSIC
1998-2002	Associated Visiting Researcher in Rutgers University, NJ, USA
1997-2003	Associated Professor in Complutense University, Madrid

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed in Biología	Universidad Complutense, Madrid	1991
PhD in Biología	Universidad Complutense, Madrid	1996

CV SUMMARY

B.S. (1991) and PhD (1996, Immunology program) in Biology Sciences by Complutense University, where I exerted as Assistant and Associated Professor from 1997 until 2003, in conjunction as Associated Researcher in Rutgers University (NJ, USA, 1998-2002), which allow establish me as independent researcher. In 2003, I moved to Institute of Parasitology and Biomedicine Lopez-Neyra (IPBLN-CSIC) at Granada, where I have been leading the group of "Neuroimmunology of Inflammatory and Autoimmune diseases". From 2014, I also exert as Director of Institute. My research interest has been focussed in understanding how inflammatory response and immune tolerance are regulated, especially by the action of endogenous cells and factors, with an especial focus in cellular and molecular components of the immune and neuroendocrine systems. Thus, we have found that various neuropeptides and hormones are produced by immune cells, and act as cytokine-like factors regulating inflammatory, autoimmune and nociceptive responses. At the same time, we definitively contributed to establish the molecular base to understand the bidirectional communication that exists between nervous system and immune system. Moreover, we found that mesenchymal stem/stromal cells of adult tissues (fat and placenta) exert potent immunoregulatory properties and that they can act in an allogeneic scenario. We demonstrated that some of these anti-inflammatory neuropeptides and adult stem cells play key roles in the maintenance and reestablishment of immune tolerance (by inducing regulatory T cells, tolerogenic dendritic cells and alternatively-activated

macrophages), and that both can be used to design therapies for the treatment of inflammatory and autoimmune disorders and in transplantation. Moreover, we have recently found the anti-fibrotic activity of these neuropeptides and their therapeutic applications in fibrotic disorders of several ethiologies. This research work generated more than 190 international publications (cited more than 13.500 times and H-index 68 in WoS, cumulative IF>1.400, >80% as first/last author; included in World's Top 2% scientists of the Stanford University ranking list) and 9 international patents. From them, it is well worth bringing to attention studies and patents that allowed the therapeutic use of vasoactive intestinal peptide in various clinical trials to treat sarcoidosis and pulmonary idiopathic fibrosis (product Aviptadil/RLF-100, by Relief Therapeutics), sepsis (NIH), and Acute Distress Respiratory Syndrome associated to Covid-19 (Aviptadil/Zyesami), as well as the therapeutic use of adipose-derived stem cells for the treatment of refractory rheumatoid arthritis and sepsis (product CX611 by Tigenix/Takeda, Phase IIa, SEPCELL), and the generation and commercialization of the first medicament authorized by EMA based in allogeneic stem cell therapy to treat patients with Crohn's disease (Alofisel/Darvadstrocel by Takeda, Galeno Award 2018). I have also participated in the characterization of the first epigenetic modifier used in a clinical trial Phase II in patients with multiple sclerosis (Oryzon Genomics). Various international and national institutions recognized these studies through various prestigious awards (Health Science Award from Caja Rural Foundation 2014; Viktor Mutt Award 2014 from the International Regulatory Peptide Society; Premio Granada Ciudad de la Ciencia e Innovacion, between others). I was PI of 20 national and international projects with an amount of 3.200.000 euros and leaded 6 technological contracts with companies with an amount of 820.000 euros. Beside as Director of IPBLN, I have exerted various institutional responsibilities, such as permanent Scientific Expert (Adjunto de Area, Biomedicine, Section Immunology) of Spanish National Agency of Evaluation and Prospective (ANEP) from 2015 to 2018, and Member/Expert of ANECA committee (research six-years) in 2020-2022. Current Scientific Advisory and Steering Committee of various Meetings and Societies: VIP, PACAP and related peptides; Regulatory Peptides; International Society of Neuroimmunomodulation. European Expert of INSERM (France), CONICET (Argentina), Nanotechnology Program (Austria), Fundacao Ciencia do Portugal, Wellcome Trust (UK), American Association of Inflammatory Bowel Disease (USA), Dutch Arthritis Foundation (Netherlands) and Poland Science Ministry (NCN), between others. From 2020, I am Associated Editor of Neuroendocrinology**.**

RELEVANT MERITS

Publications (selected from 2010, * corresponding/senior author)

1. Benitez R, Caro M, Andres-Leon E, O'Valle F, **Delgado M*.** Cortistatin regulates fibrosis and myofibroblast activation in experimental hepatotoxic- and cholestatic-induced liver injury. **Br J Pharmacol** 179:2275-2296, 2022. **(IF: 9.47, 2 cites)**.

2. Barriga M, Benitez R, Ferraz-de-Paula V, Garcia-Frutos M, Robledo G, O'Valle F, Campos-Salinas J, **Delgado M*.** Protective role of cortistatin in pulmonary inflammation and fibrosis. **Br J Pharmacol** 178:4368-4388, 2021. **(IF: 9.47, 6 cites)**.

3. Rol A, Todorovski T, Martin-Malpartida P, Escolà A, González-Rey E, Aragon E, Verdaguer X, Vallès-Miret M, Farrera-Sinfreu J, Puig E, Fernández-Carneado J, Ponsati B, **Delgado M*,** Riera A*****, Macias M*****. Structure-based design of a Cortistatin analog with improved immunoregulatory activity against inflammatory bowel disease. **Nat Commun** 12:1869, 2021. **(IF: 17.69; 10 cites)**.

4. Neubrand VE, Forte-Lago I, Caro M, **Delgado M*.** The atypical RhoGTPase RhoE/Rnd3 is a key molecule to acquire a neuroprotective phenotype in microglia. **J. Neuroinflammation** 15:343, 2018. **(IF: 9.59; 9 cites)**.

5. Delgado-Maroto V, Falo C, Adan N, Forte-Lago I, Morell M, Maganto-Garcia E, Robledo G, O'Valle F, Lichtman A, Gonzalez-Rey E, **Delgado M*.** The neuropeptide cortistatin attenuates experimental autoimmune myocarditis via inhibition of cardiomyogenic T cell-driven inflammatory responses. **Br J Pharmacol** 174:267-280, 2017. **(IF: 9.47; 19 cites)**.

6. Parolini O, Souza-Moreira L, O'Valle F, Magatti M, Hernandez-Cortes P, Gonzalez-Rey E, **Delgado M*.** Therapeutic effect of human amniotic membrane-derived cells in experimental arthritis and other inflammatory disorders. **Arthritis Rheum** 66:327-339, 2014. **(IF: 15.48; 72 cites).**

7. Duran-Prado M, Morell M, Delgado-Maroto V, Castaño JP, Aneiros-Fernandez J, de Lecea L, Culler MD, Hernandez-Cortes P, O'Valle F, **Delgado M*.** Cortistatin inhibits migration and proliferation of human vascular smooth muscle cells and decreases neointimal formation on carotid artery ligation. **Circ Res.** 112:1444-1455. 2013. **(IF: 23.21; 52 cites)**

8. Morell M, Souza-Moreira L, Caro M, O'Valle F, Forte-Lago I, de Lecea L, Gonzalez-Rey E, **Delgado M*.** Analgesic effect of the neuropeptide cortistatin in murine models of arthritic inflammatory pain. **Arthritis Rheum** 65:1390-1401, 2013. **(IF: 15.48; 24 cites)**

9. Anderson P, Souza-Moreira L, Morell M, Caro M, O´Valle F, Gonzalez-Rey E, **Delgado M*.** Adipose-derived mesenchymal stromal cells induce immunomodulatory macrophages which protect from experimental colitis and sepsis. **Gut** 62:1131-1141, 2013. **(IF: 31.84; 209 cites)**

10. Gonzalez-Rey E, Gonzalez MA, Varela N, O'Valle F, Hernandez-Cortes P, Rico L, Buscher D, **Delgado M*.** Human adipose-derived mesenchymal stem cells reduce inflammatory and T cell responses and induce regulatory T cells in vitro in rheumatoid arthritis. **Ann Rheum Dis** 69:241-248, 2010. **(IF: 27.97; 321 cites)**

11. Prasse A, Zissel G, Lützen N, Schupp J, Schmiedlin R, Gonzalez-Rey E, Rensing-Ehl A, Bacher G, Cavalli V, Bevec D, **Delgado M***, Müller-Quernheim J.* Inhalation of Vasoactive Intestinal Peptide exerts immunoregulatory effects in sarcoidosis. **Am J Resp Crit Care Med** 182:540-548, 2010. **(IF: 30.52; 105 cites)**

Research projects (Selected Granted projects in the last 5 years as PI):

RTC-2016-4955-1. Title: Epigenetic regulation of the inflammatory response. Funding Agency: Ministerio Econ. y Competitiv-Retos-Colab. From: 2016 to: 2018. PI: Mario Delgado (coord. by Oryzon Genomics). Amount: 120.000 € for IPBLN (total: 1.180.000 €).

SAF2015-67787-R. Title: Analysis of the role of cortistatin in fibrosis: potential therapeutic application in tissue damaged associated chronic diseases. Funding Agency: Min. Econ y Competitiv. From: 2016 to: 2018. PI: Mario Delgado Amount: 230.000 €.

RTI2018-100700-B-I00. Title: Immunomodulatory role of Cortistatin: effect in thymic function and immunosenescence. Funding Agency: Min. Ciencia, Innov. Univers. From: 2019 to: 2021. PI: Mario Delgado. Amount: 145.000 €.

P20-01255. Title: New therapeutic strategy for treating inflammatory and autoinmune diseases: mesenchymal stem cells version 2.0 (ASC v2.0). Funding Agency: Junta de Andalucia. Consej. Conoc, Invest. y Univers. From: 2021 to: 2023. PI: Mario Delgado. Amount: 140.000 €.

PID2021-127755OB-I00: Title: Role of cortistatin in bacterial pneumonia. Funding Agency: Min. Ciencia, Innov. Univers. From: 2022 to: 2024. PI: Mario Delgado. Amount: 260.000 €.

Patents under licensing and exploitation (Selected from 9 international patents)

1. Inventors: Gonzalez, M.A., Buscher, D., Delgado, M.
Title: "Cell populations having immunoregulatory activity, method for isolation and uses"
Number: PCT/EP2006/009244 Country/date priority: Spain/23-09-2005
Titular Entities: Cellereix SL and Consejo Superior de Investigaciones Científicas
Countries of extension: Europe (EP1926813-A2; EP2340847-A2), USA (US2009130067-A1 US20150224146A1), Japan (JP5925408B2), Canada (CA2953782A1), World (WO2007039150-A3)

License and exploitation: Patent was initially licensed in 2011 to Cellerix SL, which was adquired by belgian company Tigenix. Tigenix has sublicensed the patent to Takeda by 40 million €. Takeda has recently adquired Tigenix by 520 million € for the development of the patent at global level.
Clinical Development: This patent has generated two products for advanced medicine. **Alofisel** (also known as Darvadstrocel or CX601), is in the market from March 2018 in Europe and from 2021 in Japan, for the treatment of complex perianal fistulas in patients with Crohn's disease; **CX611**, which was used in a Phase II clinical trial for the treatment of refractory rheumatoid arthritis.

2. Inventors: Buscher, D., Delgado, M., Gonzalez Rey, E.
Title: "Uses of mesenchymal stem cells".
Number: PCT/IB2009/006597. Country/date priority: Spain/04-08-2008
Titular Entities: Cellerix, Consejo Superior de Investigaciones Científicas, Seville University
Countries of extension: Europe (EP20090786159), USA (US13057467), Canada (CA 2732908), Japan, UK (GB0814249D0), World (WO2010015929A3).
License, exploitation and Clinical Development: Patent was initially licensed in 2013 to Cellerix SL, which was adquired by belgian company Tigenix. Takeda has recently adquired Tigenix by 520 million € for the development of the patent at global level. This patent has generated a medicine named **CX611** that is in a multicentre Phase IIa clinical trial for the treatment of community acquired pneumonia-induced severe sepsis (SEPCELL).

3. Inventors: Campos-Salinas, J., Delgado, M.
Title: "Cortistatin or analog thereof as a therapeutically active agent in latent form".
Number: PCT/EP2020/054118. WO2020165457A1. Country/date priority: Spain/17-02-2019
Titular Entities: Consejo Superior de Investigaciones Científicas
License and Exploitation: Licensed to Virbac (France) for the develoment of antifibrotic and anti-inflammatory therapies.

Doctoral Thesis (last 6 years):

Defended Thesis
-Effect of adrenomedullin and cortistatin in neurodegenerative diseases: multiple sclerosis and Parkinson's disease. By Marta Pedreño Molina. Oct 2015. Sobresaliente cum laude, European Thesis. Number of publications in thesis: 4. Current position: Postdoctoral in Hospital Clinic, Barcelona.

-Papel de cortistatina en fibrosis crónica: potencial aplicación terapéutica en esclerodermia y fibrosis pulmonar idiopática. By Margarita Barriga García-Mouriño. Oct 2021. Sobresaliente cum laude. Number of publications in thesis: 2. Current position: Postdoctotal position in University of Granada.

- Análisis del papel del neuropeptide Cortistatina en fibrosis hepática. By Raquel Benítez Ruiz. Enero 2022. Sobresaliente Cum Laude, International Thesis. Number of publications in thesis: 5. Current Position: Postdoctoral Reseasrched in Toronto University, Canada.

Thesis in course:
-Marina García Frutos. Papel inmunomodulador de cortistatina: efecto en función tímica e inmunosenescencia. Started in June 2020.
-Ana Blázquez Caraballo. Nueva estrategia terapéutica para enfermedades autoinmunes e inflamatorias: Células Madre Mesenquimales v2.0. Started in Oct 2021.

Defended TFMs:
Margarita Barriga García-Mouriño (2016-2017)
Pablo Jiménez López (2017-2018)
José Antonio Céspedes (2018-2019)
Noelia Ortiz Campoy (2019-2020)
Ana Blázquez Caraballo (2020-2021)

Teaching:
-Professor of Master "Research and Advances in Molecular and Cellular Immunology", Granada University. Matter: Neuroimmunology. From 2003 until now.
-Professor of Doctorate Program of Biomedicine in the University of Granada. From 2003 until now.