

CURRICULUM VITAE ABREVIADO (CVA)

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

Part A. PERSONAL INFORMATION

First name	Ramón		
Family name	Merino Pérez		
Gender (*)	Male	Birth date (dd/mm/yyyy)	07/08/1961
Social Security, Passport, ID number	13743200X		
e-mail	merinor@unican.es	URL Web	
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-5306-0635		

(*) Mandatory

A.1. Current position

Position	Senior Staff Scientist (Investigador Científico)		
Initial date	01/07/2021		
Institution	Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC)		
Department/Center	Instituto de Biomedicina y Biotecnología de Cantabria		
Country	Spain	Teleph. number	942206855
Key words	Immunology, Inflammation, autoimmunity, T and B lymphocytes, TGF β , BAMBI,		

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

Period	Position/Institution/Country/Interruption cause
2006-2021	Staff Scientist (Científico Titular), CSIC
2003-2006	Ramón y Cajal Scientist, Universidad de Cantabria (UC)
1999-2003	FIS Scientist, Hospital U. Marqués de Valdecilla
1995-1999	Scientist, UC
1992-1995	Postdoctoral fellow, University of Michigan, USA
1986-1992	Predocctoral fellow, University of Geneva, Switzerland

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
MD	University of Cantabria	1985
PhD (Medicine)	University of Geneva (Switzerland)	1995

(Include all the necessary rows)

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

I obtained PhD in Medicine in March 1991 at the University of Geneva (Switzerland) working in the laboratory of Professor Shozo Izui (study of immunopathogenic mechanisms responsible for the development of systemic lupus erythematosus). Then, I did a postdoctoral training in the laboratory of Professor Gabriel Núñez at the University of Michigan (USA) studying the genetic regulation of apoptosis in lymphocytes. Upon my return to Spain, I performed a second postdoctoral period in the laboratory of Professor Juan M. Hurlé at the University of Cantabria (role of the TGF β superfamily in limb embryonic development). I became independent scientist in 1999, first at the Marqués de Valdecilla University Hospital (FIS Researcher Contract), later at the University of Cantabria (Ramón y Cajal Researcher Contract) and since 2006 at the CSIC (Staff Scientist). In 2021 I obtain a Senior Staff Scientist position at the CSIC. During these years, my research has been supported by competitive



National public (FIS and National Plan) and private (Fundación Ramón Areces, Fundación Eugenio Rodríguez Pascual) grants as well as by International competitive grants (National Psoriasis Foundation, USA, twice). I am the author of 108 publications, most of them in journals of the first quartile, such as Nat. Cell. Biol., Proc. Natl. Acad. Sci. USA, J. Exp. Med., Blood, J. Clin. Invest., EMBO J., Development, J. Immunol., Arthritis Rheum. among others. I have 6 “sexenios de Investigación” and 6 “quinquenios”. Finally, I am the inventor of two international patents and I have directed 13 doctoral theses and 8 Master's Thesis.

In the last years, my research has been focused on the characterization of BAMBI (BMP and Activin Membrane-Bound Inhibitor) as a promising novel molecular target for the treatment of chronic inflammatory/autoimmune diseases. I demonstrate that BAMBI expression fixes the intensity of TGFbeta signaling in murine CD4 T cells. I have developed two model to study BAMBI action, BAMBI-KO mice and a specific anti-mouse and human BAMBI mAb (clone B101.37; mouse IgG1). BAMBI deficiency or its pharmacological inhibition shift immune response to boost Treg production and activity while reducing Th17 cell differentiation. Accordingly, treatment with this anti-BAMBI mAb has both preventive and therapeutic effects in murine models of psoriasis and arthritis by Treg- and TGFbeta-dependent mechanisms. Altogether, these studies point to BAMBI as new therapeutic target in autoimmune diseases. This novel biological drug, unlike existing therapies, targets simultaneously protective Tregs (increasing) and proinflammatory Th17 cells (reducing). These data published in the journal Arthritis & Rheumatology have been featured in the Highlights section of the journal Nature Reviews Rheumatology and Arthritis & Rheumatology. The results have been protected by a patent accepted by the European Union (ref: 16870040.9) and USA (ref: US2022332809). This patent, owned 50% by CSIC and 50% by the University of Cantabria, has been licensed to Inhibitec-Antibodies S.L., a start-up company created in March 2019 and of which I am one of the co-founders. The original B101.37 murine anti-BAMBI mAb has been recently humanized at Inhibitec..

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (see instructions)

- 1- Muñoz M, Cappitelly V, Gil TM, Cagigal ML, Pérez P, Vazquez JA, Raba-Díez JI, Del Rio ML, Rodríguez-Barbosa JI, Merino J, Casado V, Merino R. BAMBI, a regulator of intestinal epithelial cell permeability and apoptosis, controls colitis and colon cancer development. 2024 Submitted.
- 2- Moës B, Li H, Molina-Ortiz P, Radermecker C, Rosu A, Vande Catsyne CA, Ali Sayyed S, Fontela JPR, Duque MS, Mostafa A, Azzi A, Barata JPT, Merino R, Xu C, Desmet C, Schurmans S. INPP5K controls the dynamic structure and signaling of wild type and mutated, leukemia-associated IL7 receptors. Blood. 2023, 141: 1708-1717.
- 3- IT Simões, F Aranda, S Casadó-LLombart, M Velasco de Andrés, C Català, P Alvarez, M Consuegra-Fernández, M Orta-Mascaró, R Merino, J Merino, J Alberola-Illa, G González-Aseguinolaza, E Carreras, VG Martínez, F Lozano. Multifaceted effects of soluble human CD6 in experimental cancer models. J Immunother Cancer. 2020, 8:e000172.
- 4- P Alvarez; JJ Agustín; E Tamayo; M Iglesias; O Acinas; MA Mendiguren; JA Vázquez; F Genre; D San Segundo; J Merino; R Merino. Therapeutic effects of anti-Bone Morphogenetic Protein and Activin Membrane-Bound Inhibitor treatment in psoriasis and arthritis. Arthritis Rheumatol. 2020, 72:1547-1558.
- 5- N Rueda; V Vidal; M Llorens-Martín; S García-Cerro; A Corrales; S Lantigua; M Iglesias; J Merino; R Merino*; C Martínez-Cué*. Anti-IL17 treatment ameliorates Down syndrome phenotypes in mice. Brain Behavior Immun. 2018, 73:235-251.
*R Merino R y C Martínez-Cué share senior authorship.
- 6- J Postigo; M Iglesias; P Alvarez; JJ Augustin; L Buelta; J Merino; R Merino. Bone Morphogenetic Protein and Activin Membrane-Bound Inhibitor, a Transforming Growth Factor beta Rheostat That Controls Murine Treg Cell/Th17 Cell Differentiation and the Development of Autoimmune Arthritis by Reducing Interleukin-2 Signaling. Arthritis Rheumatol. 2016, 68:1551-62.
- 7- M Orta-Mascaro; M Consuegra-Fernandez; E Carreras; R Roncagalli; A Carreras-Sureda; P Alvarez; L Girard; S Simoes; M Martinez-Florensa; F Aranda; R Merino; VG Martinez; R Vicente; J Merino; A Sarukhan; M Malissen; B Malissen; F Lozano. CD6 modulates thymocyte selection and peripheral T cell homeostasis. J Exp Med. 2016, 213:1387-1397.



- 8- M Iglesias; J Postigo; I Santiuste; J Gonzalez; L Buelta; E Tamayo; J Merino; R Merino. p27(Kip1) Inhibits Systemic Autoimmunity Through the Control of Treg Cell Activity and Differentiation. *Arthritis Rheum.* 2013, 65:343-354.
- 9- J Postigo; F Genre; M Iglesias; M Fernandez-Rey; L Buelta; JC Rodriguez-Rey; J Merino; R Merino. Exacerbation of Type II Collagen-Induced Arthritis in Apolipoprotein E-Deficient Mice in Association With the Expansion of Th1 and Th17 Cells. *Arthritis Rheum.* 20116, 3:971-980.
- 10- I Santiuste; L Buelta; M Iglesias; F Genre; F Mazorra; S Izui; J Merino; R Merino. B-cell overexpression of Bcl-2 cooperates with p21 deficiency for the induction of autoimmunity and lymphomas. *J Autoimmun.* 2010, 35:316-324.

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

- 1-Characterization of new mechanisms and treatments in Systemic Lupus Erythematosus. US Department of Defense, Lupus Research Program, Impact Award. Submitted. 5 years length AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS IP: Ramón Merino Pérez. Requested Budget: 905.400,4 USD.
- 2-Humanized anti-BAMBI monoclonal antibody, a novel therapy in psoriatic arthritis. From the bench to the clinic. National Psoriasis Foundation USA (nº de ref 1068808). 01/08/2023-31/07/2025
Inhibitec-Anticuerpos S.L.
IP: Victoria Casado Medrano. Budget: 200.000 USD
- 3-Hacia una nueva terapia en psoriasis y artritis psoriasica. Proyectos en Colaboración Público-Privada CPP2022-009666. 01/12/2023-30/11/2026.
Inhibitec-Anticuerpos S.L., Recog Analytics S.L., CSIC, IDIVAL
IP CSIC: Ramon Merino (Total Budget: 781.080 €; budget CSIC: 171.355 €).
- 4-Characterization of new check-points inhibitors in cancer immunotherapy, Ministerio de Ciencia y Innovación (PID2020-119567RB-I00). 01/09/2021-31/08/2023.
AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS
IP: Ramón Merino Pérez. Budget: 212.500 €
- 5-BAMBI blockade as a new therapeutic approach in Psoriatic Arthritis. National Psoriasis Foundation USA. 2020-2021
Inhibitec-Anticuerpos S.L.
IP: Ramón Merino Pérez. Budget: 200.000 USD
- 6-Papel de BAMBI en la inmunidad de mucosas en condiciones fisiológicas y patológicas (SAF2017-82905-R). 01/01/2018-31/12/2020
AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS
IP: Ramón Merino Pérez. Budget: 169.400 €
- 7-Papel de BAMBI en el control de las respuestas inmune humorales y en inmunidad de mucosas. Identificación de una nueva diana terapéutica en inflamación. (SAF2014-55088-R). 01/01/2015-31/12/2017
Consejo Superior de Investigaciones Científicas
IP: Ramón Merino Pérez. Budget: 193.600 €
- 8-Mecanismos moduladores de la diferenciación y actividad funcional de los linfocitos T CD4+CD25+ reguladores. (SAF2011-22463). 01/01/2012-31/12/2014.
Consejo Superior de Investigaciones Científicas
IP: Ramón Merino Pérez. Budget: 199.650 €
- 9-Interacciones entre reguladores del ciclo celular y de la apoptosis en el desarrollo de autoinmunidad y linfoma. (SAF2008-02042) 01/01/2008-31/12/2011
Consejo Superior de Investigaciones Científicas
IP: Ramón Merino Pérez. Budget: 205.700 €
- 10- Generación de células reguladoras CD4+CD25+ mediante sobre-expresión selectiva de Bcl-2 en linfocitos T: implicaciones terapéuticas en autoinmunidad y alotrasplante. Fundación Ramón Areces. 2005-2007.
Universidad de Cantabria
IP: Ramón Merino Pérez. Budget: 120.000 €

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have



collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any

- 1- J. Saus, F. Revert, R. Merino Pérez, J. Merino Pérez, F. Revert-Ros. Methods for treating and diagnosing disease. Pat nº: WO 2012/113785; PCT/EP12/052923: Priority: USA;
Owner: Fibrostatin SL; Extended to 194 countries.
- 2- J. Merino Pérez, R. Merino Pérez. Monoclonal antibodies against BAMBI and use for the treatment of inflammatory diseases. accepted in the EU (EP3385282) and USA (US2022332809 A1)
Owners: CSIC/University of Cantabria; Licensed to Inhibitec-Anticuerpos S.L.