

Fecha del CVA	12/02/2026
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## Parte A. DATOS PERSONALES

Nombre	Manuel		
Apellidos	Montalbán López		
Sexo	Hombre	Fecha de Nacimiento	
DNI/NIE/Pasaporte			
URL Web			
Dirección Email			
Open Researcher and Contributor ID (ORCID)	0000-0002-2936-9077		

### A.1. Situación profesional actual

Puesto	Profesor Titular de Universidad		
Fecha inicio	2021		
Organismo / Institución	Universidad de Granada		
Departamento / Centro	Microbiología / Facultad de Ciencias		
País	España	Teléfono	
Palabras clave	Bacteriología; Microbiología médica; Organismos modificados genéticamente		

### A.2. Situación profesional anterior (incluye interrupciones en la carrera investigadora - indicar meses totales, según texto convocatoria-)

Periodo	Puesto / Institución / País
2020 - 2021	Profesor Contratado Doctor / Universidad de Granada
2016 - 2020	Profesor Ayudante Doctor / Universidad de Granada
2013 - 2016	Contratado postdoctoral / Universidad de Groningen
2010 - 2013	contratado postdoctoral / Universidad de Groningen
2009 - 2010	Contratado postdoctoral / Universidad de Granada
2006 - 2008	Personal investigador en formación (Contrato FPU) / Universidad de Granada
2004 - 2006	Becario FPU / Universidad de Granada
2002 - 2003	Becario de colaboración / Universidad de Granada

### A.3. Formación académica

Grado/Master/Tesis	Universidad / País	Año
Licenciado en Farmacia	Universidad de Granada	2003

## Parte B. RESUMEN DEL CV

I graduated in Pharmacy in 2003 and finished my PhD in Microbiology in 2009, both at the University of Granada. I did a postdoc at Prof. Kuipers' lab (University of Groningen, the Netherlands) and got a position as Assistant Professor at the University of Granada in 2016. Currently I am an Associate Professor of Microbiology at this University. My scientific career has been focused on antimicrobial peptides, mainly on their biological activity and their medical applications as well as their production and maturation. I have studied two groups of relevant antimicrobial compounds that show great medical potential such as head-to-tail cyclized bacteriocins (e.g. AS-48) and lantibiotics. In fact, I contributed to the creation of Bagel3, a broadly used genome mining tool to identify modified peptides in bacterial genomes. My studies on linear permutation of AS-48 provided information about the relevance of the 3D structure and the N- to C- cyclization in the biological activity. Other contributions on this field have been the identification of the promoters that control AS-48 and more recently its biological activity against (drug- resistant) pathogenic bacteria and its toxicological profile. Regarding lantibiotics, I have contributed to the characterization of enzymes that take part in nisin production, the development of genome mining tools to find new gene clusters and the

design of a universal heterologous expression system for their production. My current research focuses on the medical application of AS-48 studying its effect on pathogenic bacteria including nanotransporters for efficient directioning of the antimicrobial. As a result of these activities, according to Pubmed, I authored 46 indexed scientific publications during my career, 17 with a prominent position. According to Web of Science, my author metrics are an H-index 26 and 3116 citations in 2370 articles (53.72 citations per publication on average). These are coauthored by researchers from 17 countries, mostly Europeans and Chinese. I participated in 12 different projects, namely 2 EU coordinated projects with 6 and 8 international groups, respectively, 5 projects of the Spanish Government, and I am PI in 3 projects funded by the Andalusian Government and one by the University of Granada. During my career I have cosupervised 2 PhD students (Dongdong Mu and Qian Li) at the University of Groningen (the Netherlands) and 20 Bachelor theses, 14 Master theses (both in the University of Granada and Groningen) and 4 international Erasmus master students (University of Padua, Italy; and University of Regensburg, Germany). I also participate in different science dissemination activities among undergraduate and highschool students such as the Week of Science and Small World Initiative.

## Parte C. LISTADO DE APORTACIONES MÁS RELEVANTES

### C.1. Publicaciones más importantes en libros y revistas con “peer review” y conferencias

AC: Autor de correspondencia; (n° x / n° y): posición firma solicitante / total autores. Si aplica, indique el número de citas

- 1 Artículo científico.** (1/8) Manuel Montalban-Lopez; Ruben Cebrian; Rosa Galera; Lidia Mingorance; Antonio Manuel Martin-Platero; Eva Valdivia; Manuel Martinez-Bueno; Mercedes Maqueda. 2020. Synergy of the bacteriocin AS-48 and antibiotics against uropathogenic enterococci. *Antibiotics (Basel)*. MDPI. 9-9, pp.567.
- 2 Revisión bibliográfica.** Ruben Cebrian; Marta Martinez-Garcia; Matilde Fernandez; et al; Mercedes Maqueda; (8/9) Manuel Montalban-Lopez (AC). 2023. Advances in the preclinical characterization of the antimicrobial peptide AS-48. *Frontiers in Microbiology*. Frontiers Media. 14, pp.1110360.
- 3 Artículo científico.** Matilde Fernández; María Isabel Torices; Claudia Teso; Carlos Moreno; Mercedes Maqueda; Eva Valdivia; (7/7) Manuel Montalban-Lopez (AC). 2025. Exploring the activity of bacteriocins against bacterial biofilms using a simple and inexpensive assay. *Probiotics and Antimicrobial Proteins*. Springer.
- 4 Artículo científico.** Mónica Jiménez-Carretero; Ana Belén Gómez; Marina Lázaro; et al; José A. Aínsa; (15/17) Manuel Montalbán-López (AC). 2025. Magnetic hyperthermia drastically enhances killing of *Mycobacterium tuberculosis* by bacteriocin AS-48 grafted on biomimetic nanoparticles. *International Journal of Biological Macromolecules*. Elsevier. pp.145441.
- 5 Artículo científico.** Yaqian Ai; (2/7) Manuel Montalban-Lopez; Penglong Li; Hui Zhang; Xuefeng Wu; Xingjiang Li; Dongdong Mu. 2025. Semirational design and immobilization synergistically enhance barnase activity and stability. *Journal of Agricultural and Food Chemistry*. ACS Publications. 73-16, pp.9743-9758.
- 6 Artículo científico.** Dehua Wei; Tiange Ma; Manuel Montalban-Lopez; Xingjiang Li; Xuefeng Wu; Dongdong Mue. 2024. Enhanced production, enzymatic activity, and thermostability of an  $\alpha$ -amylase from *Bacillus amyloliquefaciens* in *Lactococcus lactis*. *Journal of Agricultural and Food Chemistry*. ACS Publications. <https://doi.org/10.1021/acs.jafc.4c05070>
- 7 Artículo científico.** Elías González-Gragera; J. David García-López; Claudia Teso-Pérez; et al; Manuel Martínez-Bueno; (7/10) Manuel Montalban-Lopez. 2024. Genomic characterization of piscicolin 126 produced by *Carnobacterium maltaromaticum* CM22 strain isolated from salmon (*Salmo salar*). *Probiotics and Antimicrobial Proteins*. Springer Link.

- 8 **Artículo científico.** Yaqian Ai; Xingjiang Li; Xuefeng Wu; (4/6) Manuel Montalbán-López; Zhi Zheng; Dongdong Mu. 2023. Secreting recombinant barnase by *Lactococcus lactis* and its application in reducing RNA from forages. *Enzyme Microbial Technology*. Elsevier. 164, pp.110191.
- 9 **Artículo científico.** Tiange Ma; Xingjiang Li; Manuel Montalban-Lopez; Xuefeng Wu; Zhi Zheng; Dongdong Mu. 2022. Secretion of *Bacillus amyloliquefaciens* transglutaminase from *Lactococcus lactis* and its enhancement of food gel properties. *Gels*. MDPI. 8, pp.674.
- 10 **Artículo científico.** Shujian Bao; Xingjiang Li; Xuefeng Wu; Manuel Montalban-Lopez; Mingqiang Qiao; Zhi Zheng; Jing Cai; Dongdong Mu. 2022. Secretion of *Bacillus amyloliquefaciens* levansucrase and its mutants from *L. lactis* NZ9000 and their application in the synthesis of leva. *ACS Food Science and Technology*. American Chemical Society. 2, pp.655-666.
- 11 **Artículo científico.** (1/6) Ylenia Jabalera; Manuel Montalbán-López; Juan José Vinuesa Rodríguez; Guillermo R. Iglesias; Mercedes Maqueda; Concepción Jiménez López. 2021. Antibacterial directed chemotherapy using AS-48 peptide immobilized on biomimetic magnetic nanoparticles combined with magnetic hyperthermia. *International Journal of Biological Macromolecules*. Elsevier. 189, pp.206.
- 12 **Artículo científico.** (1/36) Manuel Montalban-Lopez; Thomas A. Scott; Sangeetha Ramesh; et al; Wilfred A. van der Donk. 2021. New developments in RiPP discovery, enzymology and engineering. *Natural Products Reports*. Royal Society of Chemistry. pp.doi: 10.1039/d0np00027b.
- 13 **Artículo científico.** Qian Li; Ruben Cebrian; (3/6) Manuel Montalban-Lopez; Weihui Wu; Huan Ren; Oscar P. Kuipers. 2021. Outer-membrane-acting peptides and lipid II-targeting antibiotics cooperatively kill Gram-negative pathogens. *Communications Biology*. Nature. 4-1, pp.31.
- 14 **Artículo científico.** Víctor L. Cruz; Javier Ramos; Javier Martínez-Salazar; (4/5) Manuel Montalbán-López; Mercedes Maqueda. 2021. The role of key amino acids in the antimicrobial mechanism of a bacteriocin model revealed by molecular simulations. *Journal of Chemical Information and Modeling*. American Chemical Society.
- 15 **Artículo científico.** (1/8) Steven Schmitt; Manuel Montalbán-López; David Peterhoff; Jingjing Deng; Ralf Wagner; Martin Held; Oscar Paul Kuipers; Sven Panke. 2019. Analysis of modular bioengineered antimicrobial lanthipeptides at nanoliter scale. *Nature Chemical Biology*. Springer Nature Limited. 15-5, pp.437-443.
- 16 **Artículo científico.** Qian Li; (2/3) Manuel Montalban-Lopez; Oscar Paul Kuipers. 2019. Feasibility of introducing a thioether ring in vasopressin by nisBTC co-expression in *Lactococcus lactis*. *Frontiers in Microbiology*. Frontiers Media SA. 10, pp.1508.
- 17 **Artículo científico.** Rubén Cebrián; María Elena Rodríguez-Cabezas; Rubén Martín-Escolano; et al; Mercedes Maqueda; (6/13) Manuel Montalbán-López. 2019. Preclinical studies of toxicity and safety of the AS-48 bacteriocin. *Journal of Advanced Research*. Elsevier. 20, pp.129-139.
- 18 **Artículo científico.** Tiange Ma; Jiaojiao Lu; Jing Zhu; et al; Dongdong Mu; (6/12) Manuel Montalban-Lopez. 2019. The secretion of *Streptomyces monbaraensis* transglutaminase from *Lactococcus lactis* and immobilization on porous magnetic nanoparticles. *Frontiers in Microbiology*. Frontiers Media SA. 10, pp.1675.
- 19 **Artículo científico.** Rubén Cebrián; Sergio Arévalo; Susana Rubiño; et al; Mercedes Maqueda; (6/9) Manuel Montalbán-López. 2018. Control of *Propionibacterium acnes* by natural antimicrobial substances: Role of the bacteriocin AS-48 and lysozyme. *Scientific Reports*. 8-1, pp.11766.
- 20 **Artículo científico.** Qian Li; (2/3) Manuel Montalbán López; Oscar P. Kuipers. 2018. Increasing antimicrobial activity of nisin-based lantibiotics against Gram-negative pathogens. *Applied and Environmental Microbiology*. 84-12, pp.pii: e00052-18.
- 21 **Artículo científico.** Jesus Perales-Adan; Susana Rubiño; Manuel Martinez-Bueno; Eva Valdivia; (5/7) Manuel Montalban-Lopez; Ruben Cebrian; Mercedes Maqueda. 2018. LAB Bacteriocins controlling the food isolated (drug-resistant) staphylococci. *Frontiers in Microbiology*. 8-1, pp.1143.

- 22 Artículo científico.** (1/4) Manuel Montalbán López; Jingjing Deng; Auke J. van Heel; Oscar P. Kuipers. 2018. Specificity and application of the lantibiotic protease NisP. *Frontiers in Microbiology*. 9, pp.160.
- 23 Artículo científico.** Auke J. van Heel; Tomas G. Kloosterman; (3/9) Manuel Montalban-Lopez; et al; Oscar P. Kuipers. 2017. Discovery, production and modification of five novel lantibiotics using the promiscuous nisin modification machinery. *ACS Synthetic Biology*. 5, pp.1146-1154.
- 24 Artículo científico.** (1/4) Auke J. van Heel; Manuel Montalbán López; Quentin Oliveau; Oscar P. Kuipers. 2017. Genome-guided identification of novel head-to-tail cyclized antimicrobial peptides, exemplified by the discovery of pumilarin. *Microbial Genomics*. 3, pp.e00134.
- 25 Artículo científico.** Liang Zhou; Auke J. van Heel; (3/4) Manuel Montalban Lopez; Oscar P. Kuipers. 2016. Potentiating the activity of nisin against *Escherichia coli*. *Frontiers in Cell and Developmental Biology*. 4, pp.7.
- 26 Revisión bibliográfica.** (1/3) Manuel Montalbán-Lopez; Auke J. van Heel; Oscar P. Kuipers. 2017. Employing the promiscuity of lantibiotic biosynthetic machineries to produce novel antimicrobials. *FEMS Microbiology Reviews*. 41, pp.5-18.
- 27 Revisión bibliográfica.** Patricia Alvarez Sieiro; (2/4) Manuel Montalban Lopez; Dongdong Mu; Oscar P. Kuipers. 2016. Bacteriocins of lactic acid bacteria: extending the family. *Applied Microbiology and Biotechnology*. 100, pp.2939-2951.

### C.3. Proyectos o líneas de investigación

- 1 Proyecto.** C-EXP-163-UGR23, Eliminación de *Staphylococcus aureus* mediante la combinación de compuestos antimicrobianos sinérgicos e hipertermia. Plan Operativo FEDER-UGR 2023. Manuel Montalbán López. (Universidad de Granada). 01/01/2024-31/12/2026. 15.000 €.
- 2 Proyecto.** IIMP2, Estudio sinérgico de hipertermia y antibióticos. Instituto de Biotecnología. Manuel Montalbán López. (Universidad de Granada). 16/02/2024-30/11/2024. 1.000 €. Investigador principal.
- 3 Proyecto.** B-BIO-268-UGR, Nanotransportadores con antimicrobianos para la erradicación de biopelículas microbianas B-BIO-268-UGR. Programa Operativo FEDER 2014-2020. Manuel Montalbán López. (Universidad de Granada). 01/01/2022-31/12/2023. 20.000 €.
- 4 Proyecto.** PPJIB2019-01, Desarrollo de nanosistemas magnéticos combinando la bacteriocina AS-48 y nanopartículas magnéticas biomiméticas para su aplicación en el tratamiento de enfermedades infecciosas localizadas PPJIB2019-01. Ayudas del Plan Propio para Jóvenes Investigadores.. Ylenia Jabalera Rut. (Universidad de Granada). 01/01/2020-31/12/2020. 1.500 €.
- 5 Proyecto.** Aplicaciones biomédicas de AS-48: una proteína con amplio espectro de actividad antimicrobiana SAF2013-48971-C2-1R. Ministerio de Economía y Competitividad. Mercedes Maqueda Abreu. (Universidad de Granada). 01/01/2016-31/12/2017. 121.000 €.
- 6 Proyecto.** Desarrollo de antimicrobianos nanotransportados frente a biopelículas bacterianas PY20\_00339. Proyectos I+D+i del Plan Andaluz. Manuel Montalban Lopez. (Universidad de Granada). Desde 01/06/2021. 70.000 €.

### C.4. Actividades de transferencia de tecnología/conocimiento y explotación de resultados

**Patente de invención.** Concepción Jiménez López; Mercedes Maqueda Abreu; Manuel Montalbán López; Guillermo Iglesias Salto; Matilde Fernández Rodríguez; Maria Paz Carrasco Jiménez; Massimiliano Perduca; Jose Antonio Aínsa Claver; Ylenia Jabalera Rut; Salvatore Calogero Gaglio; Mónica Jiménez Carretero; Marina Lázaro Callejón; Tamara Pozo Gualda; Alberto Sola Leyva. EP24382099.0. BMNPs and nanoassemblies thereof España. 05/02/2024. Universidad de Granada.