MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE (CVA)

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

Part A. PERSONAL INFORMATION

CV date	12/02/2021

First name	Daniel		
Family name	López		
Gender (*)	male	Birth date (dd/mm/yyyy)	07/06/1964
Social Security, number	11789112W		
e-mail	dlopez@isciii.es	http://publicationslist.org/dlopez	
Open Researcher and Contributor ID (ORCID) (*)		0000-0003-0268-5878	

(*) Mandatory

A.1. Current position

Position	Científico Titular		
Initial date	6/9/2007		
Institution	Instituto de Salud “Carlos III”		
Department/Center	Centro Nacional de Microbiología		
Country	Spain	Teleph. number	918223708
Key words	T cells, Mass spectrometry, Transgenic mice, HIV, HLA, Antigen processing, Immune response, Immunoproteomics, Vaccines,		

A.2. Previous positions (research activity interuptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause
2004-2007	Contract “Ramón y Cajal” Centro Nacional de Microbiología
1994-2004	Postdoc Contract. Centro Nacional de Microbiología - ISCIII

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD	Universidad Complutense de Madrid	1994

General indicators of quality of scientific production

A total of 1 popular science book, 5 book chapters and **61 articles in international journals**, of these: **11 articles in the first decile**, **40 articles in the first quartile** and 10 articles in the second quartile of the impact factor of their specialty. Of the 61 articles, 8 as the first author and **31 as PI**. Average ranking of articles: second decile. Cumulative Impact Factor: 368.1 / Average Impact Factor: 6.1 Citations: 1667 / Average citations per article: 27. Factor h: 21

Co-direction during the postdoctoral stage in the laboratory of Dr. Margarita del Val of a doctoral thesis defended with 2 articles. Direction of 3 doctoral theses that were defended with 8, 14 and 9 articles respectively. It is noteworthy that Elena Lorente's Doctoral Thesis received the Extraordinary Doctorate Award from the “Complutense University of Madrid”.

The complete list of articles is available in: http://publicationslist.org/dlopez

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

Daniel López carried out his Doctoral Thesis under the direction of Dr. José Antonio López de Castro (CBM) on human cytolytic responses against the histocompatibility molecule HLA-B27, a study that was the largest and most complete analysis ever conducted on cytotoxic responses in humans against a histocompatibility antigen and obtained the Extraordinary Doctorate Award from the “Complutense University of Madrid”.

Subsequently, Dr. Daniel López carried out a postdoctoral stay in the laboratory of Dr. Margarita Del Val (National Center for Fundamental Biology) where he described the direct involvement of enzymes framed in three different families of proteases involved in antigenic processing and presentation of Cytomegalovirus and HIV epitopes. These studies, together with those carried out in parallel by other researchers during the same dates, allowed to understand that proteolysis prior to antigenic presentation involves the activity of multiple proteases, which are sometimes redundant or complementary to the proteasome and other times are capable of generating new viral epitopes that the proteasome is unable to produce.

Finally, first as Contracted "Ramón y Cajal" and later as Senior Scientist of OPIs, Dr. Daniel López led a line of research at the National Center for Microbiology on the identification and molecular characterization of viral epitopes of different viruses of health interest (HRSV, vaccinia, Chikungunya, Ebola and HIV) associated with the most frequent alleles of HLA both class I and class II by immunoproteomic techniques. Likewise, the group also studies how viral epitopes are generated by the immune system, with the ultimate goal of designing rational therapeutic strategies against infection, such as recombinant vaccine viruses that enhance cellular immunity.

During these years, effective collaborations have been established with different groups that are a benchmark in the field, including those led by doctors François A. Lemonnier from the Pasteur Institute, Arie Admon from the “Technion-Israel Institute of Technology”, John A Gebe from the “Benaroya Research Institute”, Chella S. David from the “Mayo Clinic College of Medicine”, Christoph Neumann-Haefelin from the University of Freiburg, Jean-François Eléouët from the “Jouy Research Center” and Mariano Esteban from the National Center for Biotechnology . In addition, the group has participated in a consortium (funded by the INNPACTO Program) that also includes the group of Dr. Ramón Alemany from the Catalan Institute of Oncology and the companies VCN BIOSCIENCES and LABORATORIO REIG JOFRE for the development of vaccines based on recombinant adenovirus for the melanoma treatment.

Part C. RELEVANT MERITS *(sorted by typology)*
In the last 10 years:

C.1. Publications *(see instructions)*

1.- Martín-Galiano AJ*, Díaz-Fuertes F, McConnell MJ, **López D ***. “Predicted epitope abundance supports vaccine-induced cytotoxic protection against SARS-CoV-2 variants of concern”. **Frontiers in Immunology** 10.3389/fimmu.2021.732693 (2021). Impact factor: **7,6. Q1.** Article. * PI
2.- Lorente E, Marcilla M, De la Sota PG, Quijada-Freir A, Mir C, **López D ***. “Acid stripping after infection improves the detection of viral HLA class I natural ligands identified by mass spectrometry”. **International Journal of Molecular Sciences** 22 (19) 10503 (2021). Impact factor: **5,9. Q1.** Article. * PI
3.- De la Sota PG, Lorente E, Notario L, Mir C, Zaragoza O, **López D ***. “Mitoxantrone Shows In Vitro, but Not In Vivo Antiviral Activity against Human Respiratory Syncytial Virus”. **Biomedicines** *9* (9), 1176 (2021). Impact factor: **6,1. Q1.** Article. * PI
4.- García-Arriaza J, Esteban M, **López D ***. “Modified Vaccinia Virus Ankara as a Viral Vector for Vaccine Candidates against Chikungunya Virus”. **Biomedicines** *9* (9), 1122 (2021). Impact factor: **6,1. Q1.** Article. * PI
5.- Lorente E, Fontela MG, Barnea E, Martín-Galiano AJ, Mir C, Galocha B, Admon A, Lauzurica P, **López D ***. “Modulation of natural HLA-B*27:05 ligandome by ankylosing spondylitis-associated endoplasmic reticulum aminopeptidase 2 (ERAP2)”. **Molecular & Cellular Proteomics** 19 (6) 994 (2020). Impact factor: **5,9. D1.** Article * PI

6.- Lorente E, Barnea E, Mir C, Admon A, **López D ***. "The HLA-DP peptide repertoire from human respiratory syncytial virus is focused on major structural proteins with the exception of the viral polymerase" **Journal of Proteomics** 221:103759 (2020). Impact factor: **4,0. Q2**Article * PI

7.- Lorente E, Palomo C, Barnea E, Mir C, Del Val M, Admon A, **López D ***. "Natural spleen cell ligandome in transporter antigen processing (TAP)-deficient mice". **Journal of Proteome Research** 18:3512 (2019). Impact factor: **4,1. Q1.** Article * PI

8.- Lorente E, Barriga A, Barnea E, Palomo C, García-Arriaza J, Mir C, Esteban M, Admon A, **López D ***. "Immunoproteomic analysis of a Chikungunya poxvirus-based vaccine reveals high HLA class II immunoprevalence". **PLOS Neglected Tropical Diseases** 13(7):e0007547 (2019). Impact factor: **3,9. D1.** Article * PI

9.- **López D ***, Barriga A, Lorente E, Mir C. "Immunoproteomic lessons for human respiratory syncytial virus vaccine design". **Journal of Clinical Medicine** *8,* 486 (2019). Impact factor: **3,3. Q1.** Review * PI

10.- Lorente E, Martín-Galiano AJ, Barnea E, Barriga A, Palomo C, García-Arriaza J, Mir C, Lauzurica P, Esteban M, Admon A, **López D ***. "Proteomics analysis reveals that structural proteins of the virion core and involved in gene expression are the main source for HLA class II ligands in vaccinia virus-infected cells". **Journal of Proteome Research** 18, 900 (2019). Impact factor: **4,1. Q1.** Article * PI

11.- Martín-Galiano AJ, **López D ***. "Computational characterization of the peptidome in transporter associated with antigen processing (TAP)-deficient cells". **PLoS ONE** 14(1): e0210583 (2019). Impact factor: **2,7. Q2.** Article * PI

12.- Lorente E, Barriga A, García-Arriaza J, Lemonnier FA, Esteban M, **López D ***. "Complex antigen presentation pathway for an HLA-A*0201-restricted epitope from Chikungunya 6K protein". **PLOS Neglected Tropical Diseases** 11(10): e0006036 (2017). Impact factor: **4,4. D1.** Article * PI

13.- Lorente E, Barriga A, Barnea E, Mir C, Gebe JA, Admon A, **López D ***. "Structural and non-structural viral proteins are targets of T-helper immune response against human respiratory syncytial virus". **Molecular & Cellular Proteomics** 15, 2141 (2016). Impact factor: **6,6. D1.** Article * PI

14.- Johnstone C, Lorente E, Barriga A, Barnea E, Infantes S, Lemonnier FA, David CH, Admon A, **López D ***. "The viral transcription group determines the HLA class I cellular immune response against Human Respiratory Syncytial Virus". **Molecular & Cellular Proteomics** 14, 893 (2015). Impact factor: **6,6. D1.** Article * PI

15.- Barriga A, Lorente E, Johnstone C, Mir C, Del Val M, **López D ***. "A common minimal motif for the ligands of HLA-B*27 class I molecules". **PLoS ONE** 9(9): e106772. (2014). Impact factor: **3,5. Q1.** Article * PI

16.- Lorente E, Barriga A, Johnstone C, Mir C, Jiménez M, **López D ***. "Concerted *in vitro* trimming of viral HLA-B27-restricted ligands by human ERAP1 and ERAP2 aminopeptidases". **PLoS ONE** 8(11): e79596 (2013). Impact factor: **3,5. Q1.** Article * PI

17.- **López D ***, Lorente E, Barriga A, Johnstone C, Mir C. "Vaccination and the TAP-independent antigen processing pathways". **Expert Review of Vaccines** 12, 1077 (2013). Impact factor: **4,2. Q1.** Review * PI

18.- Infantes S, Lorente E, Barnea E, Beer I, Barriga A, Lasala F, Jiménez M, Admon A, **López D ***. "Natural HLA-B*2705 ligands with glutamine as anchor motif: Implications for HLA-B27 association to spondyloarthropathy" **Journal of Biological Chemistry** 288, 10882 (2013). Impact factor: **4,6. Q1.** Article * PI

19.- Lorente E, Infantes S, Barnea E, Beer I, Barriga A, García-Medel N, Lasala F, Jiménez M, Admon A, **López D ***. "Diversity of natural self-derived ligands presented by different HLA class I molecules in transporter antigen processing-deficient cells" **PLoS ONE** 8(3): e59118 (2013). Impact factor: **3,5. Q1.** Article * PI

20.- Lorente E, Infantes S, Abia D, Barnea E, Beer I, García R, Lasala F, Jiménez M, Mir C, Morreale A, Admon A, **López D ***. "A Viral, Transporter Associated with Antigen Processing (TAP)-independent, High Affinity Ligand with Alternative Interactions Endogenously Presented by the Nonclassical Human Leukocyte Antigen E Class I Molecule" **Journal of Biological Chemistry** 287, 34895 (2012). Impact factor: **4,7. Q1.** Article * PI

21.- Lorente E, García R, Mir C, Barriga A, Lemonnier FA, Ramos M, **López D ***. "Role of metalloproteases in vaccinia virus epitope processing for transporter associated with antigen

processing (TAP)-independent human leukocyte antigen (HLA)-B7 class I antigen presentation" **Journal of Biological Chemistry** 287, 9990 (2012). Impact factor: **4,7. Q1.** Article * PI
22.- Lorente E, Infantes S, Barnea E, Beer I, García R, Lasala F, Jiménez M, Vilches C, Lemonnier FA, Admon A, **López D ***. "Multiple viral ligands naturally presented by different class I molecules in transporter antigen processing-deficient vaccinia virus-infected cells" **Journal of Virology** 86, 527 (2012). Impact factor: **5,1. Q1.** Article * PI

C.3. Research projects

1.-Proyect "Nuevas tecnologías de fabricación y optimización de tejidos: la Role: PIel como sistema modelo" financiado por el Programa de Actividades de I+D entre grupos de investigación de la Comunidad de Madrid en tecnologías 2018. Centro Nacional de Microbiología, Instituto de Salud Carlos III. ROLE: researcher. 2019-2022. 761.753 euros. Proyect Coordinated by Dr. Pablo Acedo from Universidad Carlos III.
2.-Proyect "Diseño racional de una vacuna contra el virus respiratorio sincitial humano" financiado por la Acción Estratégica en Salud del Ministerio de Ciencia, Innovación y Universidades. Centro Nacional de Microbiología, Instituto de Salud Carlos III. ROLE: PI. 2019-2021. 87.000 euros.
3.-Proyect "Diseño de vacunas recombinantes poliepitópicas para generar respuestas $CD8^+$ contra virus emergentes" financiado por el Plan Nacional de I+D+i del Ministerio de Economía y Competitividad. Centro Nacional de Microbiología, Instituto de Salud Carlos III. ROLE: PI. 2015-2017. 120.000 euros.
4.-Proyect "ADELVAC: Adenovirus con delecciones poliepitópicas para vacunación" financiado por el programa INNPACTO del Ministerio de Economía y Competitividad. Centro Nacional de Microbiología, Instituto de Salud Carlos III. ROLE: PI subProyect. 2012-2014. 111.430 euros. Proyect Coordinated by Dr. Manel Cascallo from VCN BIOSCIENCES SL.
5.-Proyect "Diseño de vacunas poliepitópicas recombinantes para aumentar la respuesta inmune celular contra el VRSH" financiado por el Plan Nacional de I+D+i del Ministerio de Ciencia e Innovación. Centro Nacional de Microbiología, Instituto de Salud Carlos III. ROLE: PI. 2012-2014. 90.000 euros.

C.3. Other merits

Full member of the following scientific associations:
- Spanish Society of Immunology
- Immunology Society of the Autonomous Community of Madrid
- "American Association of Immunologists"
- "International Union of Immunological Societies"
- "Federation of American Societies for Experimental Biology"

Coordinator of the Spanish Network for Antigenic Presentation (REPA) of the Spanish Society of Immunology

Member of the Board of Directors of the Immunology Society of the Community of Madrid

Professor of the master's degrees in "Research in Immunology" at the Complutense University of Madrid and "Research in Infectious Diseases" at the University of Alcalá de Henares and professor of the Doctorate Program UNED-ISCIII Biomedical Sciences and Public Health

5 consecutive six-year research periods recognized in the period 1988-2017

Member of the Editorial Board of the "Biomedicines" journal