CV date	08/06/2021

Part A. PERSONAL INFORMATION

First and Family name	Francisco José Blanco Gutiérrez		
Social Security, Passport, ID number	50811287D	Age	56
Researcher codes	Open Researcher and Contributor ID (ORCID**)	0000-0003-2545-4319	
	SCOPUS Author ID (*)		
	WoS Researcher ID (*)	D-4401-2009	

(*) Optional
(**) Mandatory

A.1. Current position

Name of University/Institution	Consejo Superior de Investigaciones Científicas Centro de Investigaciones Biológicas Margarita Salas		
Department	Structural and Chemical Biology		
Address and Country	Ramiro de Maeztu 9, 28040 Madrid, Spain		
Phone number	911098057	E-mail	fj.blanco@cib.csic.es
Current position	CSIC-Research Scientist	From	12 /03/2020
Key words	protein, structure, molecular recognition, NMR, DNA replication, chromatin, cancer		

A.2. Education

PhD, Licensed, Graduate	University	Year
Graduate in Chemistry	Complutense de Madrid	1988
PhD in Chemistry	Complutense de Madrid	1992

A.3. General indicators of quality of scientific production *(see instructions)*

32 years of scientific research (1989-2021), with 5 ANECA "sexenios".
5 Supervised PhD theses in the last 10 years, all with "Sobresaliente *cum laude"* and two of them with "Mención internacional".
5242 total citations (~220 citation per year in the last 5 years)
60 publications in the last 10 years (50 in Q1).
Total number of publications: 122
h-index = 39

Part B. CV SUMMARY *(max. 3500 characters, including spaces)*

Francisco J Blanco obtained his Bachelor degree (1988) and Doctorate (1992) in Chemistry at the Complutense University of Madrid. His PhD was supervised by JL Nieto at the Instituto de Estructura de la Materia (CSIC), Madrid. He used Nuclear Magnetic Resonance spectroscopy for the first characterization of linear peptides able to fold into β-hairpins in solution, providing a model system to study this structure. From 1993 to 1997 he was as a Postdoctoral Fellow at the European Molecular Biology Laboratory (EMBL, Heidelberg-Germany) in L Serrano's Group to study the structure and folding of the spectrin SH3 domain as a model protein, showing that the appearance of a new fold from an existing one is unlikely to occur by evolution through a route of folded intermediate sequences. In 1997 he moved to R Tycko's Lab at the National Institute of Diabetes, Digestive and Kidney Diseases (NIDDK, NIH, Bethesda-USA), as Visiting Fellow. He applied the techniques of solid state NMR to the analysis of the HIV-Rev protein fibers, which supported a helix-loop-helix structural model. In the year 2000 he returned to Spain to work with M Rico at the Instituto de Química Física Rocasolano (CSIC), Madrid, and participated in an international structural genomics project. Using NMR, he determined the structure of a protein revealing a novel fold and a possible role in cell division. He was awarded a Ramón y Cajal contract in 2002 and joined the CNIO to establish and lead the NMR group. There he characterized native and engineered homing endonucleases as tools for gene repair. In December 2007 he joined the Structural Biology Unit at the CIC bioGUNE as an

Ikerbasque Research Professor. He investigated the structure-function relationship of the ING family of tumor suppressor proteins, which recognize methylated histone tails in nucleosomes recruiting histone acetylation complexes to the chromatin. He also characterized the human DNA sliding clamp and its interaction with DNA and with the intrinsically disordered protein p15, showing a unique mode of binding and the mechanism of sliding. In 2020 he was appointed Research Scientist and Group Leader at the Centro de Investigaciones Biológicas (CSIC) where he moved his lab to study the structure-function of proteins and their interactions involved in DNA replication and in G-protein signaling.

Along his career he has used NMR for the structural characterization of the proteins of his interest on samples that he prepares in his laboratory. He incorporates complementary techniques (crystallography, small angle X-ray scattering, electron microscopy and computation) through collaborations with other research groups providing access to the necessary equipment and expertise. He also relies on collaborations to investigate the functional implications of the structural properties of the proteins studied. This integrative structural and functional approach is indispensable to improve our understanding of the complex systems that he investigates.

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

C.1. Publications *(see instructions)*

1. González-Magaña A, **Blanco FJ*** (2020) *Human PCNA Structure, Functions, and Interactions.* **Biomolecules** 10, 570.
2. Palacios A, **Blanco FJ*** (2020) *Macromolecular crowding increases the affinity of the PHD of ING4 for the histone H3K4me3 mark.* **Biomolecules** 10, 234.
3. González-Magaña A, de Opakua AI, Merino N, Monteiro H, Diercks T, Murciano-Calles J, Luque I, Bernadó P, Cordeiro TN, Biasio A, **Blanco FJ*** (2019) *Double Monoubiquitination Modifies the Molecular Recognition Properties of p15(PAF) Promoting Binding to the Reader Module of Dnmt1*. **ACS Chem Biol** 14, 2315-2326.
4. Ormaza G, Rodríguez JA, de Opakua AI, Merino N, Villate M, Gorroño I, Rábano M, Palmero I, Vilaseca M, Kypta R, Vivanco MD, Rojas AL, **Blanco FJ*** (2019) *The tumor suppressor ING5 is a dimeric, bivalent recognition molecule of the H3K4me3 mark.* **J Mol Biol** 431, 2298-2319.
5. A de Biasio*, A Ibáñez de Opakua, MJ Bostok, D Nietlispach, T Diercks*, **FJ Blanco*** (2018) *A generalized approach for NMR studies of lipid-protein interactions based on sparse fluorination of acyl chains.* **Chem Comm** 54, 7306-7309.
6. A Ibáñez de Opakua, K Parag-Sharma, V DiGiacomo, N Merino, A Leyme, A Marivin, M Villate, LT Nguyen, MA de la Cruz-Morcillo, JB Blanco-Canosa, S Ramachandran, George S Baillie, RA Cerione, **FJ Blanco***, M Garcia-Marcos* (2017) *Molecular mechanism of Gαi activation by non-GPCR proteins with a Gα-Binding and Activating motif.* **Nature Commun** 8, 15163.
7. De March M, Merino N, Barrera-Vilarmau S, Crehuet R, Onesti S, **Blanco FJ***, De Biasio A* (2017) *Structural basis of human PCNA sliding on DNA.* **Nature Commun** 8, 13935.
8. De Biasio* A, Ibáñez de Opakua A, Mortuza GB, Molina R, Cordeiro TN, Castillo F, Villate M, Merino N, Delgado S, Gil-Cartón D, Luque I, Diercks T, Bernadó P, Montoya G, **Blanco FJ*** (2015) *Structure of the $p15^{PAF}$/PCNA complex and implications for clamp sliding on the DNA during replication and repair*. **Nature Commun** 6, 6439.
9. San Sebastián E, Zimmerman T, Zubia A, Vara Y, Martin E, Sirockin F, Dejaegere A, Stote RH, Lopez X, Pantoja-Uceda D, Valcárcel M, Mendoza L, Vidal-Vanaclocha, F, Cossío FP*****, **Blanco FJ*** (2013) *Design, Synthesis, and Functional Evaluation of Leukocyte Function Associated Antigen-1 Antagonists in Early and Late Stages of Cancer Development.* **J Med Chem** 56, 735-747.

10. Culurgioni S, Muñoz IG, Moreno A, Palacios A, Villate M, Palmero I, Montoya G*, **Blanco FJ*** (2012) Crystal structure of the inhibitor of growth 4 (ING4) dimerization domain reveals the functional organization of the ING family of chromatin binding proteins. **J Biol Chem** 287, 10876-10884.

C.2. Research projects

5R01GM130120-02-Subaward
Targeting of non-canonical G protein signaling with small molecules
National Institutes of Health (USA)
July 2018 - June 2022
PI: Francisco Blanco, CIC bioGUNE (transferred to CIB-CSIC)
81500 $

CTQ2017-83801-R
Structure and molecular recognition of the p15 oncogen: ubiquitination and interaction with DNA and PCNA.
Ministerio de Economía, Industria y Competitividad, Plan Nacional de I+D+I 2013-2016
January 2018 - December 2020
PI: Francisco J Blanco, CIC bioGUNE (transferred to CIB-CSIC)
170240 €

CTQ2014-56966-R
Histone H3 methyl recognition by the tumor suppressor ING5
Ministerio de Economía y Competitividad, Plan Nacional de I+D+I 2013-2016
January 2015 - December 2017
PI: Francisco J Blanco, CIC bioGUNE
174240 €

CTQ2011-28680
Molecular recognition of histone post-translational modifications by the tumour suppressor proteins ING4 and ING5
Ministerio de Ciencia e Innovación, Plan Nacional de I+D+I 2008-2011
Enero 2012 - December 2014
PI: Francisco J Blanco, CIC bioGUNE
143990 €

CTQ2008-03115
Molecular recognition of ING1 and ING4 proteins in chromatin remodelling and DNA repair
Ministerio de Educación y Ciencia, Plan Nacional de I+D+I 2008-2011
January 2009 - December 2011
PI: Francisco J Blanco, CIC bioGUNE
145200 €

C.3. Contracts, technological or transfer merits

Structure-function relationship in homing endonucleases
Company: CELLECTIS
PI: Francisco J Blanco, CIC bioGUNE
November 2009 - November 2013
226000 €

C.4. Patents

None in the last 10 years (one in 2008).

C.5. Scientific activity management

2018 – Member of the Editorial Board of PloSOne
2018 – Member of the Editorial Board of Biomolecules
2014 – 2017 Coordinator of the Protein Structure and Function Group of the SEBBM
2015 – 2017 Member of the Bioethics and Animal Welfare Committee of CIC bioGUNE
2012 – 2015 Coordinator of Molecular Oncology Program, CIC bioGUNE
2012 – 2015 Member of the Scientific Committee, CIC bioGUNE
2010 Member of the Organizing Committee of the II Iberian NMR Meeting.

C.6. Oral presentations

XVII EPI, Madrid, February 6th 2020. Double monoubiquitination of the IDP p15 promotes recognition by Dnmt1.

University of Natural Resources and Life Sciences, Vienna, December 2nd 2019. Molecular recognition of the eukaryotic DNA sliding clamp.

V Iberian NMR meeting and VIII Biennial meeting of the Grupo especializado de RMN of the RSEQ. Valencia, June 28th 2016. Structure and interactions of the 90 kDa human DNA sliding clamp.

IX Reunión de la Red Nacional de Estructura y Función de Proteínas. Sevilla, November 13th 2015. Structure of the $p15^{PAF}$/PCNA complex and implications for clamp sliding on the DNA during replication and repair.

International Center for Genetic Engineering and Biotechnology, Trieste, June 25th 2015. Structure of the $p15^{PAF}$/PCNA complex and implications for clamp sliding on the DNA during replication and repair.

XV Congress of the Spanish Biophysical Society, Granada, June 10th 2015. Structure of the $p15^{PAF}$/PCNA complex and implications for clamp sliding on the DNA during replication and repair.

IX Jornadas de Química Farmacéutica. Universidad del País Vasco. Vitoria, October 28th 2010. Biología molecular estructural y Resonancia Magnética Nuclear.

FEBS workshop on Understanding Transient Molecular Interactions in Biology. Sevilla, May 21st 2010. The Dimeric Structure and the Bivalent Recognition of H3K4me3 by the Tumor Suppressor ING4 Suggests a Mechanism for Enhanced Targeting of HBO1 Complex to Chromatin.

C.7. Teaching activities

2018 – 2020 Lecturer, Master in **Organic Chemistry (NMR)**, Universidad de Valencia, Spain
2009 – 2020 Lecturer, Master in **Molecular Biology**, Universidad del País Vasco, Spain
2007 – 2011 Lecturer, Master in **Biotechnology**, Universidad Internacional de Andalucía, Spain

C.8. Grant evaluator activity

2002 – 2020 Agencia Nacional de Evaluación y Prospectiva, Spain
2015 National Center of Science and Technology, Kazakhstan.
2014 Ministerio de Ciencia y Tecnología, Argentina.
2010 World Wide Cancer Research, UK
2010 Agence Nationale de la Recherche, France