



**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**

01/04-2022

|  |                     |            |            |
|--|---------------------|------------|------------|
| First name                                     | Ana María           |            |            |
| Family name                                    | Zubiaga Elordieta   |            |            |
| Gender (*)                                     | Female              | Birth date | 27-07-1959 |
| Social Security, Passport, ID number           |                     |            |            |
| e-mail   | ana.zubiaga@ehu.eus | URL Web    |            |
| Open Researcher and Contributor ID (ORCID) (*) | 0000-0002-2132-9708 |            |            |

(\*) Mandatory

**A.1. Current position**

|                   |  |              |           |
|-------------------|--|--------------|-----------|
| Position          | Catedrática de Universidad   |              |           |
| Starting date     | 25-11-2010   |              |           |
| Institution       | Universidad del País Vasco / Euskal Herriko Unibertsitatea   |              |           |
| Department/Center | Genetics, Physical Anthropology and Animal Physiology  |              |           |
| Country           | Spain  | Phone number | 946012603 |
| Key words         | Cancer, gene expression, cell cycle, mouse models, E2F/RB pathway, genetic instability, proteomics |              |           |

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

| Period    | Position/Institution/Country/Interruption cause                 |
|-----------|---|
| 2014-2015 | Visiting Scholar/ University of California-San Diego (USA)      |
| 1999-2010 | Profesora Titular/ UPV-EHU                                      |
| 1997-1999 | Profesora Titular (interina)/ UPV-EHU                           |
| 1995-1997 | Profesora Asociada/ UPV-EHU - maternity leave                   |
| 1990-1994 | Postdoctoral Fellow/ Harvard University (USA) - maternity leave |
| 1986-1990 | Postdoctoral Research Associate/ Tufts University (USA)         |
| 1983-1986 | Profesora Colaboradora/ UPV-EHU                                 |
| 1982-1983 | PhD student / UPV-EHU   |

**A.3. Education**

| PhD, Licensed, Graduate    | University/Country   | Year |
|----------------------------|--|------|
| BSc in Biological Sciences | Universidad del País Vasco / Euskal Herriko Unibertsitatea | 1981 |
| PhD in Biological Sciences | Universidad del País Vasco / Euskal Herriko Unibertsitatea | 1986 |

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

I completed my PhD in Biological Sciences at the UPV/EHU (1982-86), and carried out my postdoctoral research at the Universities of Tufts (1986-89, Dr. Brigitte Huber), and Harvard (1990-94, Dr. Michael Greenberg), in the field of genetic regulation of cell proliferation, focusing on the mechanisms that regulate the immune response and the role of cellular oncogenes. The results of these investigations were published in high impact journals (*Cell*, *J Exp Med*, *PNAS*, *J Immunol*, ...).



In 1995 I joined the UPV/EHU as a Faculty member. Currently I am Full Professor of Genetics and have teaching responsibilities at the undergraduate as well as the graduate levels. I have been awarded 6 research *sexenios* and 6 teaching *quinquenios*.

Since my recruitment at the UPV/EHU I have been an independent group leader. My research has been financed on a continuous basis as a principal investigator by national, regional and local agencies, including a CONSOLIDER-Ingenio (2007-12) and Excellence Network (2015-16 y 2020-21) projects, in collaboration with prominent Spanish research groups and coordinated by Drs. Barbacid and Malumbres. I lead a consolidated research group funded by the Basque Government since 2001, constituted by professors, pre and postdoctoral researchers and Ikerbasque researchers.

My research interests stand at the confluence of Cancer Biology and Genetics, and are focused on the role of Retinoblastoma/E2F pathway in cell cycle regulation and cell fate decisions. Experimental designs in my research involve a combination of *in vitro* cell models, genome-wide genomics and proteomics, and molecular biology, along with *in vivo* animal genetic models. My group has contributed to the field with several relevant publications over the last years (*Immunity* 2001, *J Clin Invest* 2004, *NAR* 2013, 2016, 2018, *Cell Death Differ* 2015, *Cancer Res* 2021), in which we have described the physiologic and pathologic roles of E2F family members, and we have dissected the mechanisms underlying their transcriptional activity. I have presented our work at international conferences in the area of Cancer and Molecular Biology and I have been invited to give numerous research seminars. I am also engaged in science outreach activities, including talks (NAUKAS, Cátedra de Cultura Científica, Jakin Mina), participation in science magazines (Elhuyar) and radio and television programs (EITB, Radio Euskadi). I have supervised 16 doctoral theses, 6 of which have been defended in the last 10 years, and over 25 master's theses. I am currently supervising 4 more PhD students.

I have established an active network of collaborators, both at the national (CNIO, U. Barcelona, U. Cantabria) and international level (NKI, Harvard, Karolinska, U. North Carolina), which includes exchange of protocols and reagents and visits to their laboratories for extended periods of time by members of my team, with the goal of promoting the international impact of our scientific findings and improving the visibility of the group.

Institutional responsibilities at the UPV/EHU: Member of the Ethics Committee for Animal Welfare (2009-14), of the Research Commission (2006-09) and of the Postgraduate Commission (2013-14); Coordinator of the PhD Program in Molecular Genetics (2005-10) and of the Master in Molecular Biology and Biomedicine (2008-14), Director of the Research and Training Unit in Molecular Biomedicine and Advisor of the Genomics Facility (2003-present).

Expert activities: Assistant to the Coordination of the National Agency for Evaluation and Prospective: Area of Cellular, Molecular Biology and Genetics (2005-08) and Area of Biomedicine (2015-2018); Member of the Agency for the Quality of the University System of Catalonia (2019-present); Ad hoc reviewer in Evaluation Commissions of several state and international programs. Reviewer in international scientific journals. Guest Editor of the journal *Genes* (2018-19) and Topic Editor of the journal *Cancers* (from 2021). Participation in more than 80 thesis tribunals of Spanish and international universities.

Scientific Advisory: Member of the Scientific Advisory Board of the Health Research Institute IDIVAL (Santander) from 2011 to present. Member of the Scientific Advisory Board of the Institute of Biomedicine and Biotechnology of Cantabria (Santander) from 2016 to present. Elected member of the Board of Directors of the Spanish Association for Cancer Research (ASEICA) from 2007 to 2010.

Appointed member of the Basque Academy of Sciences, Arts and Letters *JAKIUNDE*, and recipient of the Cadena Ser-Radio Bilbao Award to Excellence in Research (2018) and the Elhuyar-CAF Merit Award (2020).

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

### **C.1. Relevant Publications** (\* corresponding author)



1. Mustafa N, Mitxelena J, ...Iglesias-Ara\* A, Zubiaga\* AM (7/7) (\* co-corresponding authors) (7/7). E2f2 attenuates apoptosis of activated T lymphocytes and protects from immune-mediated injury through repression of Fas and FasL. **Int J Mol Sci** Dec 28;23(1):311 (2021)
2. González-Romero F, Mestre D,... Zubiaga AM & Aspichueta\* P. (34/35) E2F1 and E2F2-Mediated Repression of CPT2 Establishes a Lipid-Rich Tumor-Promoting Environment. **Cancer Res.** 81(11):2874-2887 (2021)
3. García-Santisteban I, Llopis A, Krenning L, van den Broek B, Zubiaga\* AM, Medema\* RH. (\* co-corresponding authors). (5/6). Sustained CHK2 activity, but not ATM activity, is critical to maintain a G1 arrest after DNA damage in untransformed cells. **BMC Biol.** Feb 19;19(1):35 (2021)
4. Peñalver-González B, Vallejo-Rodríguez J, ... Zubiaga\* AM. (7/7) Golgi Oncoprotein GOLPH3 Gene Expression Is Regulated by Functional E2F and CREB/ATF Promoter Elements. **Genes** (Basel). Mar 25;10(3). pii: E247 (2019)
5. Mitxelena J, Apraiz A, ... Zubiaga\* AM. (8/8) An E2F7-dependent transcriptional program modulates DNA damage repair and genomic stability. **Nucleic Acids Res.** 46:4546-4559 (2018)
6. Iglesias-Ara A, Osinalde N & Zubiaga\* AM. (3/3) Detection of E2F-induced transcriptional activity using a dual luciferase reporter assay. **Methods Mol Biol.** 1726:153-166 (2018)
7. Mitxelena J, Apraiz A, Vallejo-Rodríguez J, Malumbres M, Zubiaga\* AM. (5/5) E2F7 regulates transcription and maturation of multiple microRNAs to restrain cell proliferation. **Nucleic Acids Res.** 44: 5557–5570 (2016)
8. Osinalde N, Mitxelena J, ... Kratchmarova\* I. (7/9) Nuclear phosphoproteomic screen uncovers ACLY as mediator of IL-2-induced proliferation of CD4+ T-lymphocytes. **Mol Cell Proteomics.** 15(6):2076-92 (2016)
9. Iglesias-Ara A, Zenarruzabeitia O, ... Zubiaga\* AM. (5/5) E2F1 and E2F2 prevent replicative stress and subsequent p53-dependent organ involution. **Cell Death Differ.** 22(10):1577-1589. doi: 10.1038/cdd.2015.4 (2015)
10. Laresgoiti U, Olea M, ... Zubiaga\* AM. (7/7) E2F2 and CREB cooperatively regulate transcriptional activity of cell cycle genes. **Nucleic Acids Res.** 41:10185-10198 (2013)
11. Osinalde N, Olea M, ... Zubiaga\* AM. (8/8) The nuclear protein ALY binds to and modulates the activity of transcription factor E2F2. **Mol Cell Proteom.** 12:1087-1098 (2013)

## C.2. Conferences (Selected)

*Invited conference:* Zubiaga, AM. Searching for genomic signatures of antiphospholipid syndrome. XXXV Congreso de la Sociedad Española de Inmunología. San Sebastián 2011.

*Poster:* Zenarruzabeitia O, Iglesias-Ara A, Buelta L, Merino J & Zubiaga AM. Control of pancreatic homeostasis by the E2F-p53 regulatory axis. 22nd Biennial Congress of the European Association for Cancer Research. Barcelona 2012.

*Poster:* Mitxelena J, Apraiz A, Alvarez-Fernández M, Malumbres M & Zubiaga AM. E2F7 coordinates DNA damage-dependent transcription and DNA Interstrand Crosslink Repair. EMBO workshop on Translational advances in cancer cell signaling and metabolism. Bilbao 2014.

*Invited conference:* Zubiaga, AM. Oncogenic and anti-oncogenic roles of E2F transcription factors. 20th World Congress on Advances in Oncology. Athens (Greece) 2015.

*Poster:* Vallejo-Rodríguez J, Mitxelena J, Apraiz A, Malumbres M & Zubiaga A.M. E2F7 regulates transcription and maturation of multiple microRNAs to restrain cell proliferation. 24th Biennial Congress of the European Association for Cancer Research. Manchester (UK) 2016.



*Oral Presentation:* García-Santisteban I, Llopis A, van den Broek B, Medema RH & Zubiaga AM. A functional screen identifies novel phosphatases required for checkpoint recovery in G1. Joint Congress of the Spanish Society of Cell Biology and the Spanish Society of Developmental Biology. Gijón, 2017.

*Oral Presentation:* Vallejo-Rodríguez J, Mitxelena J, Apraiz A, Fullaondo A, Alvarez-Fernández M, Malumbres M, Zubiaga AM. An E2F7-dependent transcriptional program modulates DNA damage repair and genomic stability. 42nd FEBS Congress. Jerusalem (Israel) 2017.

*Poster:* Iglesias-Ara A, Mustafa N, Zenarruzabeitia O, Eriz A, Madariaga E, Buelt L, Merino J & Zubiaga AM. E2F2 and p53 Work in Concert to Prevent Replication Stress in T Lymphocytes. 11th Salk Institute Cell cycle Virtual Meeting. San Diego (EEUU). 2021.

*Poster:* Mustafa N, Infante A, Zenarruzabeitia O, Mitxelena J, Iglesias-Ara A & Zubiaga AM. E2F2 protects activated T-lymphocytes from apoptosis through repression of Fas/FasL-dependent mechanisms. 45th FEBS Congress (Virtual). Ljubljana (Slovenia) 2021.

### C.3. Research projects

1. "MATRIXBIOCELL-Desarrollo, caracterización y optimización de modelos celulares multicapa en el marco de una terapia avanzada 100% autóloga para su aplicación en ingeniería tisular". Gobierno Vasco, Depto. Desarrollo Económico. 01/2020-31/2021. Ref.: KK-2020/00014. PI: Ana M<sup>a</sup> Zubiaga. 52.930 €
2. RED TEMÁTICA "Balance entre proliferación y diferenciación: mecanismos y relevancia en patología humana". MICIU. Ref.: RED2018-102723-T. 01/2020-12/2022. Coordinator network (10 groups): Marcos Malumbres. PI group: Ana M<sup>a</sup> Zubiaga. 20.000 €
3. "Revisando el papel de los factores E2F en el desarrollo tumoral: estudio de la conexión E2F-EMT". Ministerio de Ciencia y Universidades. Ref.: RTI2018-097497-B-I00. 01/2019-12/2021. PI: Ana M<sup>a</sup> Zubiaga. 181.500 €
4. "GRUPO CONSOLIDADO: Biología celular y molecular del cáncer". Gobierno Vasco, Dpto. Educación. Ref.: IT1257-19. 01/2019-12/2021. PI: Ana M<sup>a</sup> Zubiaga. 268.305 €
5. "Relevancia fisiológica de los factores E2F más allá de la regulación del ciclo celular". Ministerio de Economía y Competitividad. Ref.: SAF2015-67562-R. 01/2016-12/2018. Extended 30-06-19 PI: Ana M<sup>a</sup> Zubiaga. 193.000 €
6. "Investigación colaborativa en reconocimiento molecular en el contexto de la patología común y de las enfermedades raras". Gobierno Vasco, Depto. Desarrollo Económico y Competitividad. Ref.: KK-2015/89. 01/2015-12/2016. PI: Ana M<sup>a</sup> Zubiaga. 54.056 €
7. "Caracterización funcional y mecanismos de acción de los factores de transcripción típicos y atípicos de la familia E2F". Ministerio de Economía y Competitividad. Ref.: SAF2012-33551. 01/2013-12/2015. PI: Ana M<sup>a</sup> Zubiaga. 152.000 €
8. "GRUPO CONSOLIDADO: Mecanismos moleculares implicados en la alteración de la homeostasis celular: perspectivas para la terapia del cáncer". Gobierno Vasco, Dpto. Educación. Ref.: IT634-13. 01/2013-12/2018. PI: Ana M<sup>a</sup> Zubiaga. 353.599 €
9. "Investigación estratégica y desarrollo tecnológico en metabolismo-enfermedad y en cáncer-envejecimiento". Gobierno Vasco, Depto. Desarrollo Económico y Competitividad. Ref.: IE12-331. 12/2012-12/2014. PI: Ana M<sup>a</sup> Zubiaga. 68.188 €
10. CONSOLIDER-INGENIO: "Biología del cáncer". Ministerio de Ciencia e Innovación. Ref.: CSD2007-00017. 10/2007-12/2012. Coordinator (13 groups): Mariano Barbacid. PI group: Ana M<sup>a</sup> Zubiaga. 7.742.000 € (528.600 € for our group)