

Fecha del CVA	08/02/2021
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Parte A. DATOS PERSONALES

Nombre y Apellidos	Rubén Pío Osés		
DNI	33420335R	Edad	49
Núm. identificación del investigador	Researcher ID	F-5353-2017	
	Scopus Author ID		
	* Código ORCID	0000-0002-6831-6111	

* Obligatorio

A.1. Situación profesional actual

Organismo	Fundación para la Investigación Médica Aplicada		
Dpto. / Centro	/ Programa de Tumores Sólidos		
Dirección	Edificio CIMA, Avenida Pío XII, 55, 31008, Pamplona		
Teléfono	659324358	Correo electrónico	rpío@unav.es
Categoría profesional	Director de Programa	Fecha inicio	2014
Palabras clave	Cáncer		

A.2. Formación académica (título, institución, fecha)

Licenciatura/Grado/Doctorado	Universidad	Año
Doctor en Farmacia	Universidad de Navarra	1998
Licenciado en Farmacia Orientación Industrial	Universidad de Navarra	1994

A.3. Indicadores generales de calidad de la producción científica

Scientific publications:

Number of publications in journals indexed in ISI: 112

Number of publications in the first quartile: 86 (33 with main authorship)

Number of publications in the first decile: 39 (17 with main authorship)

Number of publications in the last five years: 43

Number of citations: 4079

H-index: 38

Research projects:

International projects: 5 (3 as PI)

National projects: 14 (8 as PI)

Research contracts with biotech companies: 6 (4 as PI)

Others (regional projects, foundations, etc): 18 (4 as PI)

Congresses:

Invited speaker: 22 (15 international)

Poster presentations: 63

Oral presentations: 43

Patents:

Author in 7 patents (3 active, 2 licensed)

Teaching activity:

Almost 2,000 hours of teaching activity in undergraduate, master and doctoral courses

Student supervision:

PhD students: 13 (3 ongoing)

Other: Master degree students: 7; Undergraduate students: 13

Parte B. RESUMEN LIBRE DEL CURRÍCULUM

Prof. Ruben Pio graduated in Pharmacy with Honors from the University of Navarra, where he also obtained his PhD in 1998. He later moved to the Department of Cell and Cancer Biology at the National Cancer Institute (NIH, Bethesda, USA) for his postdoctoral training. There, he contributed to the understanding of adrenomedullin biology, a peptide hormone with an important role in tumor promotion and progression. In 2001 he joined the University of Navarra, where he established as an independent researcher. In 2012 he was appointed Full Professor of Biochemistry and Molecular Biology. He is also the Director of the Program in Solid Tumors at the Center for Applied Medical Research (CIMA), and vice-director of the Cancer Center of the University of Navarra (CCUN). The goal of his studies is to understand the molecular alterations that drive or are associated with lung carcinogenesis, in order to identify new strategies for lung cancer early detection and new therapies. He is especially interested in the implication of complement activation in lung cancer progression, as well as its capacity to potentiate the efficacy of cancer immunotherapy. He has received several awards for his research. Among them, he received the AACR-Cancer Research and Prevention Foundation Career Development Award in Translational Lung Cancer Research, and he was the senior author of publication awarded with the VI Prof. Durantez- LAIR Foundation Award.

Selection of five publication as senior author in the last five years:

Ajona D, ..., Pío R. Short-term starvation reduces IGF-1 levels to sensitize lung tumors to PD-1 immune checkpoint blockade. *Nature Cancer* 2020, 1: 75-85. *Senior and corresponding author.

Ajona D, ... Pío R*, Lecanda F*. Blockade of the complement C5a/C5aR1 axis impairs lung cancer bone metastasis by CXCL16-mediated effects. *American Journal of Respiratory and Critical Care Medicine* 2018; 197: 1164-1176. Índice de impacto: 16.494. *Senior authors.

Ajona D, ... Pío R*. A combined PD-1/C5a blockade synergistically protects against lung cancer growth and metastasis. *Cancer Discovery* 2017; 7: 694-703. Índice de impacto: 24.373. *Senior and corresponding author.

de Miguel FJ, ... Pío R. Identification of alternative splicing events regulated by the oncogenic factor SRSF1 in lung cancer. *Cancer Research* 2014; 74: 1105-1115. Índice de impacto: 9.329. *Senior and corresponding author.

Berraondo P, ... Melero*, Pío R*. Innate immune mediators in cancer: between defense and resistance. *Immunological Reviews* 2016; 27: 290-306. Índice de impacto: 9.619. *Senior and corresponding authors.

Parte C. MÉRITOS MÁS RELEVANTES (ordenados por tipología)

C.1. Publicaciones

AC: Autor de correspondencia; (n° x / n° y): posición firma solicitante / total autores

- 1 Artículo científico.** Fresquet V; Garcia-Barchino MJ; Larrayoz M; et al; Pio R; Martinez-Climent JA. (14/23). 2021. Endogenous retroelement activation by epigenetic therapy reverses the Warburg effect and elicits mitochondrial-mediated cancer cell death *Cancer Discovery*. Online ahead of prin. ISSN 2159-8274.
- 2 Artículo científico.** Carazo F; Bertolo C; Castilla C; et al; Pio R (AC); Rubio A. (9/11). 2020. DrugSniper: Using loss-of-function screens for cancer drug repositioning, novel target discovery and predictive biomarker identification. *Cancers*. 12, pp.1824. ISSN 2072-6694.
- 3 Artículo científico.** Pros E; Saigi M; Alameda D; et al; Pio R; Sanchez-Céspedes M. (21/26). 2020. Genome-wide profiling of nonsmoking-related lung cancer cells reveals common RB1 rearrangements associated with histopathologic transformation in EGFR-mutant tumors. *Annals of Oncology*. 31, pp.274-282. ISSN 1569-8041.

- 4 **Artículo científico.** Baraibar I; Roman M; Rodriguez-Rodriguez J; et al; Pio R; Gil-Bazo I. (22/26). 2020. Id1 and PD-1 combined blockade impairs tumor growth and survival of KRAS-mutant lung cancer by stimulating PD-L1 expression and tumor infiltrating CD8+ T cells *Cancers*. 12, pp.3169-3169. ISSN 2072-6694.
- 5 **Artículo científico.** Ajona D; Ortiz-Espinosa S; Lozano T; et al; Pio R (AC). (25/25). 2020. Short-term starvation reduces IGF-1 levels to sensitize lung tumors to PD-1 immune checkpoint blockade. *Nature Cancer*. 1, pp.75-85. ISSN 1078-8956.
- 6 **Artículo científico.** Mastellos DC; Blom AM; Connolly ES; et al; Pio R; Lambris JD. (15/22). 2019. 'Stealth' corporate innovation: an emerging threat for therapeutic drug development. *Nature Immunology*. 20, pp.1409-1413. ISSN 1529-2908.
- 7 **Artículo científico.** Martinez-Terroba E; Behrens C; Agorreta J; et al; Pio R; Montuenga LM. (10/13). 2019. A 5 protein-based signature for resectable lung squamous-cell carcinoma improves the prognostic performance of the TNM staging. *Thorax*. 74, pp.371-379. ISSN 0040-6376.
- 8 **Artículo científico.** Elgendy M; Fusco JP; Segura V; et al; Pio R; Perez-Gracia JL. (17/25). 2019. Identification of mutations associated with acquired resistance to sunitinib in renal cell-cancer. *International Journal of Cancer*. 145, pp.1991-2001.
- 9 **Artículo científico.** Garmendia I; Pajares MJ; Hermida-Prado F; et al; Pio R; Agorreta J. (26/28). 2019. YES1 drives lung cancer growth and progression and predicts sensitivity to Dasatinib. *American Journal of Respiratory and Critical Care Medicine*. 200, pp.888-899. ISSN 1073-449X.
- 10 **Artículo científico.** Martinez-Terroba E; Behrens C; de Miguel FJ; et al; Pio R; Pajares MJ. (12/15). 2018. A novel protein-based prognostic signature improves risk stratification to guide clinical management in early lung adenocarcinoma patients. *Journal of Pathology*. 245, pp.421-432. ISSN 0022-3417.
- 11 **Artículo científico.** Ajona D; Zanduetta C; Corrales L; et al; Lecanda F (AC). (16/16). 2018. Blockade of the complement C5a/C5aR1 axis impairs lung cancer bone metastasis by CXCL16-mediated effects. *American Journal of Respiratory and Critical Care Medicine*. 197-, pp.1164-1176. ISSN 1073-449X.
- 12 **Artículo científico.** Romero JP; Ortiz-Estevez M; Muniategui A; et al; Pio R; Rubio A. (9/11). 2018. Comparison of RNA-seq and microarray platforms for splice event detection using across-platform algorithm. *BMC Genomics*. 19, pp.703. ISSN 1471-2164.
- 13 **Artículo científico.** Fusco JP; Pita G; Pajares MJ; et al; Pio R; Perez-Gracia JL. (11/27). 2018. Genomic characterization of individuals presenting extreme phenotypes of high and low risk to develop tobacco-induced lung cancer. *Cancer Medicine*. 7, pp.3474-3483. ISSN 2045-7634.
- 14 **Artículo científico.** Martinez-Terroba E; Ezponda T; Bertolo C; et al; Pio R; Pajares MJ. (9/12). 2018. The oncogenic RNA binding protein SRSF1 regulates LIG1 in non-small cell lung cancer. *Laboratory Investigation*. 98, pp.1562-1574. ISSN 0023-6837.
- 15 **Artículo científico.** Abou Faycal C; Brambilla E; Agorreta J; et al; Pio R; Eymin B. (11/13). 2018. The sVEGFR1-i13 splice variant regulates a b1 integrin/VEGFR autocrine loop involved in the progression and the response to anti-angiogenic therapies of squamous cell lung carcinoma. *Cancer Medicine*. 118, pp.1596-1608. ISSN 2045-7634.
- 16 **Artículo científico.** Ajona D; Ortiz-Espinosa S; Moreno H; et al; Pio R (AC). (14/14). 2017. A combined PD-1/C5a blockade synergistically protects against lung cancer growth and metastasis. *Cancer Discovery*. 7-, pp.694-703. ISSN 2159-8274.
- 17 **Artículo científico.** Ajona D; Okroj M; Pajares MJ; et al; Pio R. (14/14). 2017. Complement C4d-specific antibodies for the diagnosis of lung cancer. *Oncotarget*. Epub ahead of print-. ISSN 1949-2553.
- 18 **Artículo científico.** De Torres JP; Sanchez-Salcedo P; Bastarrica G; et al; Pio R; Zulueta JJ. (5/13). 2017. Telomere length, chronic obstructive pulmonary disease and emphysema as risk factors for lung cancer. *European Respiratory Journal*. 49-. ISSN 0903-1936.
- 19 **Revisión bibliográfica.** Rolfe B; Pio R; Woodruff TM; Markewski MM; Manthey HD. (2/6). 2020. The role of complement in tumors *Frontiers in Immunology*. En prensa. ISSN 1664-3224.

- 20 **Revisión bibliográfica.** Seijo LM; Peled N; Ajona D; et al; Pio R; Montuenga L. (7/11). 2019. Biomarkers in lung cancer screening: achievements, promises and challenges. *Journal of Thoracic Oncology*. 14, pp.343-357. ISSN 1556-0864.
- 21 **Revisión bibliográfica.** Ajona D; Ortiz-Espinosa S; Pio R. (3/3). 2019. Complement anaphylatoxins C3a and C5a: emerging roles in cancer progression and treatment. *Seminars in Cell and Developmental Biology*. 85-, pp.153-163. ISSN 1084-9521.
- 22 **Revisión bibliográfica.** Ajona D; Ortiz-Espinosa S; Pio R (AC); Lencanda F. (3/4). 2019. Complement in metastasis: a comp in the camp. *Frontiers in Immunology*. 10, pp.669. ISSN 1664-3224.
- 23 **Revisión bibliográfica.** Pio R (AC); Ajona D; Ortiz-Espinosa S; Mantovani A; Lambris JD. (1/5). 2019. Complementing the cancer-immunity cycle. *Frontiers in Immunology*. 10, pp.774. ISSN 1664-3224.
- 24 **Revisión bibliográfica.** Perez-Gracia JL; Sanmamed MF; Bosch A; et al; Pio R; Melero I. (17/39). 2017. Strategies to design clinical studies to identify predictive biomarkers in cancer research. *Cancer Treatment Reviews*. 53-, pp.79-97. ISSN 0305-7372.

C.2. Proyectos

- 1 PI20/00419, Modulación del sistema del complemento para mejorar la actividad antitumoral y disminuir los efectos secundarios de la inmunoterapia frente al cáncer de pulmón Ministerio de Sanidad y Consumo-Instituto de Salud Carlos III. Ruben Pio. (CIMA, Clínica Universidad de Navarra). 01/2021-12/2023. 248.957 €. Investigador principal.
- 2 Alianza en genómica avanzada para el desarrollo de terapias personalizadas en Navarra Departamento de Industria del Gobierno de Navarra. Felipe Prosper. (Clínica Universidad de Navarra, CIMA, CHN, Navarrabiomed, Recombina, Nasertic). 06/2020-11/2022. 1.527.627 €. Investigador principal.
- 3 Discovering immune therapeutic vulnerabilities in KRAS/STK11-mutant lung adenocarcinomas Australian National Health and Medical Research Council. Ruben Pio. (CIMA, Clínica Universidad de Navarra). 04/2020-03/2022. 715.000 €. Investigador principal.
- 4 PI17/00411, Potenciación de la inmunoterapia frente a cáncer de pulmón mediante la potenciación de la respuesta tumoral innata. Ministerio de Sanidad y Consumo-Instituto de Salud Carlos III. Ruben Pio. (CIMA). 01/2018-12/2020. 123.420 €. Investigador principal.
- 5 PROYE16091, Potenciación antitumoral y antimetastásica mediante la modulación del sistema del complemento. Asociación Española contra el Cáncer. Ruben Pio. (CIMA). 12/2017-11/2020. 300.000 €. Investigador principal.
- 6 DIANA, Tecnología de secuenciación de nueva generación (NGS) para optimizar la eficacia del diagnóstico y tratamiento en pacientes con tumores de alta mortalidad (DIANA: Diagnóstico biomédico e Innovación Abierta en Navarra). Departamento de Industria del Gobierno de Navarra. Felipe Prosper. (Clínica Universidad de Navarra, CIMA, Grupo Informático GTEI SAU, Complejo Hospitalario de Navarra, CIMA LAB Diagnostics). 04/2017-11/2019. 1.884.893 €. Investigador principal.
- 7 APP1103951, Targeting the complement cascade: a novel therapeutic strategy for metastatic melanoma. Australian National Health and Medical Research Council. Barbara Rolfe. (University of Queensland, CIMA, QIMR Berghofer Medical Research Institute). 01/2016-12/2018. 370.000 €. Investigador principal.
- 8 PI14/01686, Identificación y validación de marcadores diagnósticos y dianas terapéuticas en cáncer de pulmón relacionados con la activación del sistema del complemento. Ministerio de Sanidad y Consumo. Ruben Pio. (CIMA). 01/2015-12/2017. 110.715 €. Investigador principal.

C.3. Contratos

C.4. Patentes