CV Date	05/11/2025

Part A. PERSONAL INFORMATION

First Name *	Rocío	
Family Name *	García Carbonero	
Researcher's identification number	Open Researcher and Contributor ID (ORCID) *	0000-0002-3342-397X
	Researcher ID	
	Scopus Author ID	6603544256

* Mandatory

A.1. Current position

Job Title	Especialista en Oncología Médica, Profesora Titular (vinculado al Hosp Univ 12 de Octubre)		
Starting date	2021		
Institution	SERMAS / Universidad Complutense de Madrid		
Department / Centre			
Country		Phone Number	
Keywords	Medicine; Cancer		

A.2. Previous positions

Period	Job Title / Name of Employer / Country
2016 - 2021	Profesor Asociado / Universidad Complutense de Madrid
2015 - 2021	Facultativo Especialista en Oncología Médica (personal estatutario) / Hospital Universitario 12 de Octubre
2010 - 2015	Profesor Asociado / Universidad de Sevilla
2007 - 2014	Facultativo Especialista en Oncología Médica (personal estatutario) / Hosp Univ Virgen del Rocío
2002 - 2007	Facultativo Especialista en Oncología Médica (personal estatutario desde 2006) / Hosp Univ Severo Ochoa
1999 - 2000	Clinical and Research Fellow (Beca postdoctoral MEC) / Harvard Medical School
1994 - 1997	Médico Interno Residente (Especialidad de Oncología Médica) / Hospital Universitario 12 de Octubre

A.3. Education

Degree/Master/PhD	University / Country	Year
Máster en Experimentación Animal	Universidad de Granada	2012
Máster Oncología Molecular	Centro Nacional Inv. Oncol.	2007
Diplom. Estadística Ciencias Salud	Universitat Autònoma de Barcelona	1998
Doctorado en Medicina	Univ. Complutense, Madrid	1998
Especialista en Oncología Médica	Hospital Univ. 12 de Octubre	1997
Licenciada en Medicina	Universidad Autónoma de Madrid	1992

A.4. General quality indicators of scientific production

Date: 13/03/2025 Source: ISI Web of Knowledge & Journal Citation Reports

H-index: 65, Times cited: 20.011, Average citations per item: 37,34
Publications: 231, First decile (D1) publications: 60, First quartile (Q1) publications: 127
First author publications: 28, Senior/corresponding author publications: 43

Part B. CV SUMMARY

Rocio Garcia-Carbonero, MD, PhD, is a medical oncologist expert in gastrointestinal and neuroendocrine tumors, with a solid training in clinical and translational oncology, including a 2-year postdoctoral fellowship in Clinical Pharmacology and Developmental Therapeutics at Harvard Medical School (1998-1999), Massachusets General Hospital and Dana Farber Cancer Institute, Boston, USA. She is currently Associate Professor (Profesor Titular, 5 research sexennium) at Universidad Complutense de Madrid (UCM), and the head of the GI and NET Unit of the Medical Oncology Department at 12 de Octubre University Hospital in Madrid. She has extensive experience in drug development and has been a member of the Scientific Advisory Group for Oncology (SAG-O) of the European Medicines Agency (EMA) (2008-2017). She is actively involved in clinical and translational research, with a particular focus in the development of new drugs or therapeutic strategies in the field of GI and NE tumors. She has led several investigator-initiated clinical trials (IIT) sponsored by research cooperative groups (AXINET, NICENEC, RIALTO, PEMBROLA).

Rocio Garcia-Carbonero leads a research group focused on the molecular characterization of GI and NE tumors for the identification of novel biomarkers or targets for personalized patient's care at the Centro de Oncologia Experimental, Instituto de Investigación Hospital 12 de Octubre (Imas12). She has published >230 peer-reviewed articles (H index 65, i10 ind 220, >20.000 citations). She has been the PI of 11 research projects funded in competitive calls, being the inventor of four patents (P201230513; P201331371; P202131016; P202430165). She has also extensive teaching and mentoring experience, both to undergraduate and postgraduate students (teacher and mentor in several University Master's Degrees in Biomedical Research at the University of Seville and at the UCM, director of a Master Degree in NETs at UCM). She has mentored medical oncologists in training since 2001, has directed many Degree and Master projects and 11 Doctoral Thesis (+3 ongoing). She has relevant leading positions at different national and international scientific networks and societies, being the current Chair of the European Society of Neuroendocrine Tumors (ENETS) and ESMO Faculty Coordinator of Endocrine and Neuroendocrine Tumors.

Part C. RELEVANT ACCOMPLISHMENTS

C.1. Publications

AC: corresponding author. (nº x / nº y): position / total authors. If applicable, indicate the number of citations

1 **Scientific paper**. Riesco-Martinez MC; Capdevila J; Alonso V; et al; (19/19) Garcia-Carbonero R (AC). 2024. Nivolumab plus platinum-doublet chemotherapy in treatment-naive patients with advanced grade 3 Neuroendocrine Neoplasms of gastroenteropancreatic or unknown origin: The multicenter phase 2 NICE-NEC trial (GETNE-T1913).Nat Commun (IF:14.2, D1). 15-1, pp.6753. https://doi.org/10.1038/s41467-024-50969-8

2 **Scientific paper**. La Salvia A; Lens-Pardo A; López-López A; et al; Soldevilla B; (19/20) Garcia-Carbonero R (AC). 2024. Metabolomic profile of neuroendocrine tumors identifies methionine, porphyrin, and tryptophan metabolisms as key dysregulated pathways associated with patient survival.Eur J Endocrinol (IF: 5.3, Q1). 190-1, pp.62-74. https://doi.org/10.1093/ejendo/lvad160

3 **Scientific paper**. Dasari A; Lonardi S; (3/38) Garcia-Carbonero R; et al; FRESCO-2 Study Investigators. 2023. Fruquintinib versus placebo in patients with refractory metastatic colorectal cancer (FRESCO-2): an international, multicentre, randomised, double-blind, phase 3 study.Lancet (IF: 168.9, D1). https://doi.org/10.1016/S0140-6736(23)00772-9

4 **Scientific paper**. Capdevila, J; Hernando J; Teule A; et al; Manzano J.L.; (5/23) Garcia-Carbonero R. 2023. Durvalumab plus tremelimumab for the treatment of advanced neuroendocrine neoplasms of gastroenteropancreatic and lung origin. Nat Commun (IF:14.2, Q1). 14-1, pp.2973. https://doi.org/10.1038/s41467-023-38611-5

5 **Scientific paper**. Soldevilla B; Lens-Pardo A; Espinosa-Olarte P; et al; (18/18) Garcia-Carbonero R (AC). 2023. MicroRNA signature and integrative omics analyses define prognostic clusters and key pathways driving prognosis in patients with neuroendocrine neoplasms. Mol Oncol (IF: 5, Q1). 17-4, pp.582-597. https://doi.org/10.1002/1878-0261.13393

Narrative explanation of the contribution

Neuroendocrine neoplasms (NENs) are mutationally quiet (low number of mutations/Mb), and epigenetic mechanisms drive their development and progression. We aimed at comprehensively characterising the microRNA (miRNA) profile of NENs, and exploring downstream targets and their epigenetic modulation. In total, 84 cancer-related miRNAs were analysed in 85 NEN samples from lung and gastroenteropancreatic (GEP) origin, and their prognostic value was evaluated by univariate and multivariate models. Transcriptomics (N = 63) and methylomics (N = 30) were performed to predict miRNA target genes, signalling pathways and regulatory CpG sites. Findings were validated in The Cancer Genome Atlas cohorts and in NEN cell lines. We identified a signature of eight miRNAs that stratified patients in three prognostic groups (5-year survival of 80%, 66% and 36%). Expression of the eight-miRNA gene signature correlated with 71 target genes involved in PI3K-Akt and TNFα-NF-kB signalling. Of these, 28 were associated with survival and validated in silico and in vitro. Finally, we identified five CpG sites involved in the epigenetic regulation of these eight miRNAs. In brief, we identified an 8-miRNA signature able to predict survival of patients with GEP and lung NENs, and identified genes and regulatory mechanisms driving prognosis in NEN patients.

6 **Scientific paper**. Metovic J; La Salvia A; Rapa I; et al; Volante M; (7/11) Garcia-Carbonero R. 2022. Molecular Subtypes of Extra-pulmonary Neuroendocrine Carcinomas Identified by the Expression of Neuroendocrine Lineage-Specific Transcription Factors.Endocr Pathol (IF: 4.4, Q1). 33-3, pp.388-399. https://doi.org/10.1007/s12022-022-09722-4

7 **Scientific paper**. (1/24) Garcia-Carbonero R; Bazan-Peregrino M; Gil-Martín M; et al; Salazar R. 2022. Phase I, multicenter, open-label study of intravenous VCN-01 oncolytic adenovirus with or without nab-paclitaxel plus gemcitabine in patients with advanced solid tumors.JOURNAL FOR IMMUNOTHERAPY OF CANCER (IF 10.9, Q1). 10-3. https://doi.org/10.1136/jitc-2021-003255

8 **Scientific paper**. Bazan-Peregrino, Miriam; (2/23) Garcia-Carbonero, Rocio; Laquente, Berta; et al; Hidalgo, Manuel. 2021. VCN-01 disrupts pancreatic cancer stroma and exerts antitumor effects. J Immunother Cancer (IF:13.751, D1). 9-11. https://doi.org/10.1136/jitc-2021-003254

9 **Scientific paper**. Grande E; Rodriguez-Antona C; Lopez C; et al; (16/16) Garcia-Carbonero R. 2021. Sunitinib and Evofosfamide (TH-302) in Systemic Treatment-Naive Patients with Grade 1/2 Metastatic Pancreatic Neuroendocrine Tumors: The GETNE-1408 Trial. Oncologist (Senior Author, IF: 5.837, Q2). 26-11, pp.941-949. https://doi.org/10.1002/onco.13885

10 **Scientific paper**. Soldevilla, Beatriz; Lopez-Lopez, Angeles; Lens-Pardo, Alberto; et al; (14/14) Garcia-Carbonero, Rocio (AC). 2021. Comprehensive Plasma Metabolomic Profile of Patients with Advanced Neuroendocrine Tumors (NETs). Diagnostic and Biological Relevance. Cancers (IF:6.575, Q1). 13-11, pp.2634. https://doi.org/10.3390/cancers13112634

Narrative explanation of the contribution

Purpose: High-throughput "-omic" technologies have enabled the detailed analysis of metabolic networks in several cancers, but NETs have not been explored to date. We aim to assess the metabolomic profile of NET patients to understand metabolic deregulation in these tumors and identify novel biomarkers with clinical potential. Methods: Plasma samples from 77 NETs and 68 controls were profiled by GC-MS, CE-MS and LC-MS untargeted metabolomics. OPLS-DA was performed to evaluate metabolomic differences. Related pathways were explored using Metaboanalyst 4.0. Finally, ROC and OPLS-DA analyses were performed to select metabolites with biomarker potential. Results: We identified 155 differential compounds between NETs and controls. We have detected an increase of bile acids, sugars, oxidized lipids and oxidized products from arachidonic acid and a decrease of carnitine levels in NETs. MPA/MSEA identified 32 enriched metabolic pathways in NETs related with the TCA cycle and amino acid metabolism. Finally, OPLS-DA and ROC analysis revealed 48 metabolites with diagnostic potential. Conclusions: This study provides, for the first time, a comprehensive metabolic profile of NET patients and identifies a distinctive metabolic signature in plasma of potential clinical use. A reduced set of metabolites of high diagnostic accuracy has been identified. Additionally, new enriched metabolic pathways annotated may open innovative avenues of clinical research.

11 **Scientific paper**. Melisi, Davide; Oh, Do-Youn; Hollebecque, Antoine; et al; (19/19) Garcia-Carbonero, Rocio (AC). 2021. Safety and activity of the TGF beta receptor I kinase inhibitor galunisertib plus the anti-PD-L1 antibody durvalumab in metastatic pancreatic cancer. J Immunother Cancer (IF: 12.485, D1). 9-3. https://doi.org/10.1136/jitc-2020-002068

Narrative explanation of the contribution

Background: We assessed the safety, efficacy, and pharmacokinetics of the transforming growth factor beta (TGFβ) receptor inhibitor galunisertib co-administered with the anti-programmed death-ligand 1 (PD-L1) antibody durvalumab in recurrent/refractory metastatic pancreatic cancer previously treated with ≤2 systemic regimens. Methods: This was a two-part, single-arm, multinational, phase Ib study. In a dose-finding phase, escalating oral doses of galunisertib were co-administered on days 1-14 with fixed-dose intravenous durvalumab 1500 mg on day 1 every 4 weeks (Q4W), followed by an expansion cohort phase. Results: The galunisertib recommended phase II dose (RP2D) when co-administered with durvalumab 1500 mg Q4W was 150 mg two times per day. No dose-limiting toxicities were recorded. Among 32 patients treated with galunisertib RP2D, 1 patient had partial response, 7 had stable disease, 15 had objective progressive disease, and 9 were not evaluable. Disease control rate was 25.0%. Median overall survival and progression-free survival were 5.72 months (95% CI: 4.01 to 8.38) and 1.87 months (95% CI: 1.58 to 3.09), respectively. Pharmacokinetic profiles for combination therapy were comparable to those published for each drug. There was no association between potential biomarkers and treatment outcomes. Conclusion: Galunisertib 150 mg two times per day co-administered with durvalumab 1500 mg Q4W was tolerable. Clinical activity was limited. Studying this combination in patient...

12 **Scientific paper**. Andre, T.; Shiu, K-K; Kim, T. W.; et al; KEYNOTE-177 Investigators; (8/22) Garcia-Carbonero, R.2020. Pembrolizumab in Microsatellite-Instability-High Advanced Colorectal Cancer. N Engl J Med (IF: 158.5, D1. Citations: 855). 383-23, pp.2207-2218. https://doi.org/10.1056/NEJMoa2017699

Narrative explanation of the contribution

Background: Programmed death 1 (PD-1) blockade has clinical benefit in microsatellite-instability-high (MSI-H) or mismatch-repair-deficient (dMMR) tumors after previous therapy. The efficacy of PD-1 blockade as compared with chemotherapy as first-line therapy for MSI-H-dMMR advanced or metastatic colorectal cancer is unknown. Methods: In this phase 3, open-label trial, 307 patients with metastatic MSI-H-dMMR colorectal cancer who had not previously received treatment were randomly assigned, in a 1:1 ratio, to receive pembrolizumab at a dose of 200 mg every 3 weeks or chemotherapy (5-fluorouracil-based therapy with or without bevacizumab or cetuximab) every 2 weeks. Patients receiving chemotherapy could cross over to pembrolizumab therapy after disease progression. The two primary end points were progression-free survival and overall survival. Results: At the second interim analysis, after a median follow-up (from randomization to data cutoff) of 32.4 months (range, 24.0 to 48.3), pembrolizumab was superior to chemotherapy with respect to progression-free survival (median, 16.5 vs. 8.2 months; hazard ratio, 0.60; 95% confidence interval [CI], 0.45 to 0.80; P = 0.0002). The estimated restricted mean survival after 24 months of follow-up was 13.7 months (range, 12.0 to 15.4) as compared with 10.8 months (range, 9.4 to 12.2). As of the data cutoff date, 56 patients in the pembrolizumab group and 69 in the chemotherapy group had died. Data on overall survival were still evolvin...

13 **Scientific paper**. Grande E; Teule A; Alonso-Gordoa T; et al; (18/18) Garcia-Carbonero R. 2020. The PALBONET Trial: A Phase II Study of Palbociclib in Metastatic Grade 1 and 2 Pancreatic Neuroendocrine Tumors (GETNE-1407). Oncologist (Senior Author, IF: 5.55). 25-9, pp.745-e1265. https://doi.org/10.1634/theoncologist.2020-0033

Narrative explanation of the contribution

Lessons learned: Palbociclib demonstrated no detectable activity in molecularly unselected and heavily pretreated patients with advanced grade 1/2 pancreatic neuroendocrine tumors. Predictive biomarkers that improve patient selection should be investigated in future studies of palbociclib. Background: Palbociclib, a CDK4/6 inhibitor, has shown in vitro activity in pancreatic neuroendocrine tumor (pNET) cell lines. Here we prospectively assessed the activity and safety of palbociclib in monotherapy in metastatic refractory pNETs. Methods: This was a nonrandomized, open-label, phase II study of patients with metastatic grade (G)1/2 pNETs recruited from 10 centers in Spain. Palbociclib 125 mg was orally administered once daily for 21 of 28 days until disease progression or unacceptable toxicity. Results: Twenty-one patients were included; 52.4% were men, and median age was 57.4 years (range, 37.4-73.4). Patients had previously received a median of three prior lines of systemic therapy (range, 1-10) for advanced disease (somatostatin analogues, 71.4%; sunitinib, 81.0%; everolimus, 47.6%; chemotherapy, 47.6%). Nineteen patients were evaluated for objective response rate (ORR), with a median follow-up of 12.4 months (range, 7.53-19.33). No objective and confirmed responses were observed (0%); 11 (57.9%) patients had stable disease, and 6 of them lasted more than 6 months; 8 (42.1%) patients had disease progression as best response. Median progression-free survival (PFS) was 2.6 mo...

C.3. Research projects and contracts

1 **Project**. NACIONAL COINVESTIGADORA: Immune4ALL. Exploring the Feasibility of predictive and pharmacodynamics biomarkers of immunotherapy in solid tumors PMP22/00054. ISCiii (Convocatoria Medicina de Precisión). Garcia-Carbonero R. 2023-2026. 4.992.900 €.

2 **Project**. NACIONAL, INVESTIGADOR PRINCIPAL. Desarrollo de una clasificación molecular independiente del origen tumoral en neoplasias neuroendocrinas con potencial uso clínico. PI22/01835. ISCiii. Rocio Garcia-Carbonero. 2023-2025. 183.920 €.

3 **Project**. NACIONAL, INVESTIGADOR PRINCIPAL. Multi-Omic integrated analysis of patients with Neuroendocrine Neoplasms (PRYGN223375GARC). Rocío García Carbonero. 2022-2025. 300.000 €.
4 **Project**. NACIONAL, COINVESTIGADORA: CIBERONC. CB16/12/00442. ISCiii. 2021-2023. 240.000 €.
5 **Project**. NACIONAL, INVESTIGADOR PRINCIPAL. Quimiorresistencia mediada por SFKs en cáncer colorrectal BRAF mutado. Desarrollo de nuevas estrategias terapéuticas. PI19/01583.. ISCiii. 2020-2022. 145.200 €.
6 **Project**. EUROPEO, INVESTIGADOR PRINCIPAL. A phase III randomized double-blind study of sandostatin lar in combination with axitinib vs placebo in patients with advanced G1-G2 EP-NETs. EUDRACT 2011-001550-29. Proyecto Europeo (ensayo clínico independiente). GETNE. Pfizer, S.A.. 2016-2021. 2.658.897 €.
7 **Project**. NACIONAL, COINVESTIGADORA: CIBERONC. CB16/12/00442. ISCiii. 2017-2020. 312.000 €.
8 **Project**. NACIONAL, INVESTIGADOR PRINCIPAL. Activación de Src en cáncer colorectal: estudio funcional y utilidad como biomarcador en la clínica. PI16/01827. ISCiii. 2017-2019. 202.977 €.
9 **Project**. NACIONAL, COINVESTIGADORA: Discovery, Validation and Implementation of Biomarkers for Precision Oncloogy. PIE15/00076. Proyectos Integrados de Excelencia.. ISCiii. 2016-2018. 368.500 €.
10 **Project**. NACIONAL, INVESTIGADOR PRINCIPAL. Validacion de tecnologias de prediccion de respuesta al tratamiento con quimioterapia en carcinoma colorectal avanzado. DTS15/00157. ISCiii. 2015-2017. 94.600 €.
11 **Project**. EUROPEO, COINVESTIGADORA: Improving Translational Research Potential at the Institute of Biomedicine of Seville (IBIS) (ITRIBIS) 316151 (7th Framework Programme). Comisión Europea. 2013-2017. 5.840.274 €.
12 **Project**. NACIONAL, INVESTIGADOR PRINCIPAL. Identificación de biomarcadores predictivos de respuesta farmacológica en cáncer colorectal avanzado: validación preclínica y clínica. PI13/02295.. ISCiii. 2014-2016. 56.870 €.
13 **Contract**. RRHH CONSEGUIDOS COMO JEFE DE GRUPO: CONTRATO PREDOCTORAL. PFIS FI20/00131 ISCiii. 2021-01/01/2025. 82.400 €.
14 **Contract**. RRHH CONSEGUIDOS COMO JEFE DE GRUPO: CONTRATO RIO HORTEGA ISCiii. 2020-01/01/2022.
15 **Contract**. RRHH CONSEGUIDOS COMO JEFE DE GRUPO: Contrato predoctoral. PEJD-2019- PRE/BMD-17058. Consejería de Educación, Juventud y Deporte/Fondo Social Europeo. 2020-01/01/2022. 25.000 €.
16 **Contract**. RRHH CONSEGUIDOS COMO JEFE DE GRUPO: Contrato postdoctoral AECC 2017. AECC. 2018-01/01/2022. 40.000 €.
17 **Contract**. RRHH CONSEGUIDOS COMO JEFE DE GRUPO: Contrato predoctoral. PEJD-2017-PRE/BMD-4981. Consejería de Educación, Juventud y Deporte/Fondo Social Europeo. 2018-01/01/2020. 25.000 €.

C.4. Activities of technology / knowledge transfer and results exploitation

1 **Patent of invention**. R. Garcia-Carbonero y col.P202430165. Firma predictiva de respuesta a antiangiogénicos en TNEs GEP y pulmonares Spain. 07/03/2024. Fundación Imas12.
2 **Patent of invention**. R. Garcia-Carbonero y col.P202131016 (ref: P2020/47510). Firma pronóstica de miRNAs en Neoplasias NE de origen GEP y pulmonar P2020/47510 28/10/2021. Fundación Imas12.
3 **Patent of invention**. R. Garcia- Carbonero y col.P201331405 (ref:P-06647-FISEVI-13008). Método para predecir la respuesta al tratamiento con quimioterapia en pacientes con cáncer colorectal 2013. IBIS (HUVR/CSIC/Universidad Sevilla).
4 **Patent of invention**. R. Garcia-Carbonero y col.P201230513. Modelo de expresión de miRNAs como indicador de supervivencia en pacientes de cáncer colorrectal metastásico 2012. IBIS (HUVR/CSIC/Universidad Sevilla).