

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

<b>Part A. PERSONAL INFORMATION</b>		<b>CV date</b>	2024/09/30
First name	Paloma		
Family name	Bragado Domingo		
Gender (*)	Female	Birth date (dd/mm/yyyy)	20/07/1980
Social Security, Passport, ID number	14307764Q		
e-mail	<a href="mailto:pbragado@ucm.es">pbragado@ucm.es</a>	URL Web	
Open Researcher and Contributor ID (ORCID) (*)	0000-0002-7642-1245		

(\*) Mandatory

### A.1. Current position

Position	Associate professor (Profesor Contratado Doctor)		
Initial date	18/10/2022		
Institution	Complutense University		
Department/Center	Bioquímica y Biología Molecular	<a href="#">Facultad de Farmacia</a>	
Country	Spain	Teleph. number	91396-1853
Key words	Metastasis, disseminated tumor cells, dormancy Neural cues, microenvironment		

### A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
18/10/2022-to date	Profesor Contratado Doctor/ UCM/ Madrid/ Spain
19/02/2022-17/10/2022	Profesor contratado doctor interino/ UCM/Madrid/ Spain
08/01/2019-18/02/2022	Profesor Ayudante doctor/UCM /Madrid/ Spain
05/2014-31/12/2018	Postdoctoral researcher/IDIBAPS/ Barcelona/Spain
19/10/2008-31/12/2013	Postdoctoral researcher/ MSSM/New York/USA

### A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Biochemistry and Molecular biology	Complutense University Madrid	2008
Msc. in Molecular Oncology	Spanish National centre for oncology research (CNIO)	2005
B.S. in Biochemistry	Complutense University Madrid	2003

(Include all the necessary rows)

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

Overall, my main research interest is to understand the molecular mechanisms controlling disseminated tumour cells (DTCs) biology and progression into metastasis. Metastatic cancer is the most advanced stage of cancer, it arises from DTCs shed by the primary tumour and cannot be cured. Further characterization of these DTCs is required to identify new targets for improved risk prevention and design new therapies.

I got my PhD in Molecular Biology and Biochemistry from the Complutense University. My PhD project was to study the crosstalk between p38 $\alpha$ / $\beta$  MAPK and p53 pathways in the context of apoptosis



induced by chemotherapeutic agents and other types of stress. After my PhD I moved to New York to the laboratory of Dr. Julio Aguirre-Ghiso, a well-known expert in tumour dormancy, at Mount Sinai School of Medicine (NY, USA) where I did 5 years of postdoctoral training. My postdoctoral studies revealed for the first time that the bone marrow is a growth-restrictive 'soil' where TGF $\beta$ 2 and p38 signaling keep DTCs in a dormant state. This work led to several publications in high impact journals, including one first author paper in Nature Cell Biology and one opinion article in Nature Medicine. In addition, this work was selected for oral communications at several prestigious meetings such as the Metastatic Colonization ISREC symposium 2014 and received the woman in cancer research scholar award for the AACR annual meeting 2012. As a result of my training, I have become an expert in the study of tumor dormancy as shown by my publication track and by our review in Nature Cancer Reviews in which I'm co-first author and also co-corresponding author.

In 2014 I joined the Molecular and Translational Oncology laboratory at IDIBAPs. In September 2015 I was awarded a Beatrís de Pinos reintegration postdoctoral grant. During my five years at IDIBAPS I was awarded three grants as Principal Investigator (PI), one from the CELLEX foundation, a competitive grant from the Spanish Association against cancer (AECC) and a Leonardo fellowship for researchers and cultural creators from the BBVA foundation. In 2018 I was awarded a position as "Profesor Ayudante Doctor" in the department of Biochemistry and Molecular Biology at UCM where in 2019 I started my research group as a young PI (<https://cancerdormancygrowth.com/>). In 2019 I also got a grant from the Spanish ministry as PI. In the past 6 years, I have directed six final year degree projects, ten Master Thesis and co-directed three PhD thesis. At the moment, I'm co-directing four other PhD thesis.

In brief, I have published 45 articles in peer review journals, 33 of them in the first quartile and 5 of them in high impact factor journals (Nature Cell Biology, Nature Medicine, Nature Communications and Nature Cancer Reviews, JCI), 7 of them as first author and 8 as corresponding author, and three book chapters where I'm the first author or co-corresponding author. During my scientific career, I have been an essential contributor on several projects funded by public entities: NIH/USA, NYSTEM/USA, FIS/ISCIII, RETICC, RETOS. Moreover, due to my studies in DTCs dormancy regulation since 2014 I have been invited as a keynote speaker to 7 international meetings indicating that my research is worldwide recognized.

In October 2022 I got a stable position as "profesor contratado doctor" at UCM and in July 2022 I got my accreditation as "profesor Titular" by the ANECA

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

### **C.1. Publications** (see instructions)

Articles: 45; 7 as first author and 8 as corresponding author. I have published 3 book chapters, 2 as first author. Articles in Q1: 33; Articles in D1:12; Cites=2615; h-index: 22; In addition, at the moment we have two more articles in preparation and two original articles and one review under review

**1.** Recalde-Percaz L, et al.... **Bragado P**. Neuropilin-2 upregulation by stromal TGF $\beta$ 1 induces lung disseminated tumor cells dormancy escape and promotes metastasis outgrowth. Under Review in Cells Reports; <https://doi.org/10.21203/rs.3.rs-1956933/v1>

**2.** Baquero C., et al... **Bragado P\***, Guerrero C\*, Porras A\*. Platelet C3G down-regulation promotes fibrosis and protects from hepatocarcinoma development through regulation of inflammation. *Under Review in Journal of pathology*

**3.** Moragas N et al.... **Bragado P**, Bissell M, Carbó N, Fuster G. The SEMA3F-NRP1/NRP2 axis is a key factor in the acquisition of invasive traits in in situ breast ductal carcinoma. Breast Cancer Res. 2024 Aug 13;26(1):122. doi: 10.1186/s13058-024-01871-0. PMID: 39138514

**4.** León X, et al....**Bragado P**, Camacho M, Avilés-Jurado FX. Predictive capacity for local disease control of neogenin-1 (NEO1) transcriptional expression in patients with head and neck squamous cell carcinoma. Clin Transl Oncol. 2024 Jun 19. doi: 10.1007/s12094-024-03535-z. Online ahead of print. PMID: 38898351



5. Rodrigo-Faus M, et al... **Bragado P**, Gutierrez-Uzquiza A. CRISPR/Cas9 screenings unearth protein arginine methyltransferase 7 as a novel essential gene in prostate cancer metastasis. *Cancer Lett.* 2024 Apr 28;588:216776. doi: 10.1016/j.canlet.2024.216776. Epub 2024 Mar 2. PMID: 38432581.
6. Meler-Claramonte C et al... **Bragado P**, Fuster G, León Vintró X, Camacho M. Semaphorin-3F/Neuropilin-2 Transcriptional Expression as a Predictive Biomarker of Occult Lymph Node Metastases in HNSCC. *Cancers (Basel).* 2022 Apr 30;14(9):2259. doi: 10.3390/cancers14092259. IF: 6.57
7. Araujo AM et al... **Bragado P**, Coleman N, Palazón A, Carracedo A, Gallego-Ortega D, Calvo F, Isacke CM, Caffarel MM, Lawrie CH. Stromal oncostatin M cytokine promotes breast cancer progression by reprogramming the tumor microenvironment. *J Clin Invest.* 2022 Apr 1;132(7):e148667. doi: 10.1172/JCI148667. IF: 19.456
8. Fernández-Nogueira P et al... **Bragado P**. Cancer-Associated Fibroblasts in Breast Cancer Treatment Response and Metastasis. *Cancers (Basel).* 2021 Jun 23;13(13):3146. doi: 10.3390/cancers13133146. PMID: 34201840. IF: 6.64
9. **Paloma Bragado** et al. Unraveling the role of fibroblasts, FGF5 and FGFR2 in HER2-targeted therapies resistance and tumor progression. *Oncotarget.* 2020; 11:4541-4543. IF=3,70
10. Lopez-Plana A, et al... **Bragado P\***. The novel pro-autophagy anticancer drug ABTL0812, potentiates chemotherapy in adenocarcinoma and squamous NSCLC. *Int J Cancer.* 2020 Aug 15;147(4):1163-1179. doi: 10.1002/ijc.32865. IF= 4,982; Q1
11. Fernández-Nogueira P, et al... **Bragado P\***. Tumour Associated Fibroblasts Contribute to HER2-Targeted Therapies Resistance in Breast Cancer through FGFR2 Activation. *Clin Cancer Res.* 2019 Nov 7. pii: clincanres.0353.2019. Impact factor: 10,199; D1
12. Ikemori R et al... **Bragado P**, Arshakyan M, Luis IC, Marín A, Morán S, Castro M, Fuster G, Gea-Sorli S, Jauset T, Soucek L, Montuenga LM, Esteller M, Monsó E, Peinado VI, Gascon P, Fillat C, Hilberg F, Reguart N, Alcaraz J. Epigenetic SMAD3 Repression in Tumor-Associated Fibroblasts Impairs Fibrosis and Response to the Antifibrotic Drug Nintedanib in Lung Squamous Cell Carcinoma. *Cancer Res.* 2019 Nov 6. doi: 10.1158/0008-5472.CAN-19-0637. Impact factor: 9,13; D1
13. Zubeldia-Plazaola A, et al... **Bragado P\***. Glucocorticoids promote DCIS transition to IDC through myoepithelial cell apoptosis. *Breast Cancer Res.* 2018 Jul 4;20(1):65. Impact factor: 5,49, Q1
14. Fernández-Nogueira P et al... **Bragado P\***. Histamine receptor 1 inhibition enhances antitumor therapeutic responses through extracellular signal-regulated kinase (ERK) activation in breast cancer. *Cancer Lett.* 2018 Jun 28;424:70-83. Impact factor: 6.375; Q1

**C.2. Congress**, indicating the modality of their participation (invited conference, oral presentation, poster)

My work has been presented in 28 national and international conferences. It has been selected for oral presentation in 9 of them and I have been invited as keynote speaker in 6 conferences (Congreso de la Asociación Española de Investigación sobre el Cáncer (ASEICA) ,2015; I Simposio Biopsia Líquida: El camino a la oncología de precisión, 2016 y Sociedad Española De Anatomía Patológica -Reunión De Primavera. Biopsia Líquida: Un Nuevo Reto Para El Patólogo Y El Oncólogo, 2016; 1st Internacional HCSC-Symposium on Translational Cancer Research, 2019, Congreso SEFIG 2023).

1. 20th Biennial Congress of the MRS. 23rd – 25th June, 2024. London. Authors: Paula Linzoain-Agos, et al... **Paloma Bragado**. Title: Lung fibroblasts regulate disseminated tumor cells fate and progression to metastasis through TFGβ1/Neuropilin 2 and FGF5/FGFR2 pathways. Contribución: POSTER
2. CNIO-CaixaResearch Frontiers Meeting: Metastasis #CFM\_Metastasis. Madrid/Spain. 6-9/11/2023 Authors: Paula Linzoain-Agos, et al... **Paloma Bragado**. Title: Lung fibroblasts regulate disseminated tumor cells fate and progression to metastasis through TFGβ1/Neuropilin 2 and FGF5/FGFR2 pathways. Contribución: POSTER
3. XVI Congreso de la sociedad Española de Farmacia Industrial y galénica; Madrid/Spain. 13/01/2023. Authors: Paloma; Title: Use of in Ovo models for cancer research. Contribution: Round table: Alternative models for animal research; Invited speaker
4. EMBO | EMBL Symposium: Defining and defeating metastasis. Heidelberg/Germany. 2022. Authors: Leire Recalde Percaz, et al... **Paloma Bragado**; Title: Neuropilin 2 promotes lung disseminated



tumour cells escape from dormancy, proliferation and progression to metastasis; Contribución: POSTER

### C.3. Research projects

#### ○ Active Projects

1. Convocatoria 2022 de «Proyectos de Generación de Conocimiento»; Tipo B (PID2022-136959OB-I00). Title: Papel del Microambiente en la Regulación de la Supervivencia, Latencia y Reactivación de las Células Tumorales Diseminadas. Institution: UCM; Participantes: 2; **Investigador Principal**: **Paloma Bragado Domingo**; Entidad financiadora: Ministerio de Ciencia, Innovación y Universidades; Duración: 01/09/2023– 31/08/2026; Financiación recibida (en euros): 200.000€

2. Programas de actividades de I+D entre grupos de investigación de la Comunidad de Madrid en Biomedicina 2022 (P2022/BMD-7434); Funding Institution: Comunidad de Madrid; Title: “ASAP; Advanced Strategies and new Approaches for Protontherapy”. Institution: UCM; Participants: 8 groups; Starting date: 01/01/2023-End date: 31/12/2026. PI: Luis Mario Fraile. 824.000,00 €; Role: Team member

3. Ayudas a proyectos en líneas estratégicas, del plan estatal de investigación científica, técnica y de innovación 2021-2023, en el marco del plan de recuperación, transformación y resiliencia, y por la que se aprueba la convocatoria correspondiente al año 2022. (ñ); Funding Institution: Ministerio de Ciencia e Innovación; Title: “Comprendiendo la radioterapia flash con dispositivos de tejido en-chip y resonancia magnética mejorada con hiperpolarización (FLASHOnChip)”. Institution: UCM; Participants: 5 groups; Starting date: 01/01/2023-End date: 31/12/2025. PI: Irene Marcos Ruiz. 1.413.049,55 €; Role: Team member

#### ○ Past Projects

1. Convocatoria 2019 Proyectos de I+D+i - RTI Tipo B (PID2019-104991RB-I00): Funding Institution: Ministerio de Ciencia e Innovación; Title: “Descifrando la función de las neuropilinas y las plexinas en la regulación del destino celular de las células tumorales diseminadas y la formación de metástasis”. Institution: UCM; Participants: 2; Starting date: 01/06/2020-End date: 31/05/2023. **PI**: **Paloma Bragado Domingo**. 130.000€; Role: Principal Investigator

2. Beca Leonardo a Investigadores y Creadores Culturales 2018; Funding Institution: BBVA; Title: “El reloj de la metástasis: regulación circadiana de las células tumorales diseminadas”. Institution: IDIBAPS; Participants: 3; Starting date: 15/09/2018-End date: 14/03/2020. **PI**: **Paloma Bragado Domingo**. 40.000€; Role: Principal Investigator

3. Ayudes per a la investigació en oncologia 2014, Junta provincial de Barcelona, Funding Institution: Asociación Española contra el cáncer (AECC); Title: Role of the neuroendocrine system in the regulation of disseminated tumour cell dormancy. Institution: Clinic foundation for research; Participants: 2; Starting date: 30/01/2015-End date: 01/03/2017. **PI**: **Paloma Bragado Domingo**. Role: Principal Investigator

### C.4. Contracts, technological or transfer merits

1. 2020\_ Artículo 83 with the company Arthic Therapeutics (Iceland) for the analysis and evaluation of HCCA patient samples. Title: “Identification of new Treatment Diseases”. UCM: Álvaro Gutierrez Uzquiza (IP), Paloma Bragado. Arthic Therapeutic CEO: Ivor Hakonarson. 1500€

2. 2022\_ Artículo 83 with the company Arthic Therapeutics (Iceland) for the analysis and evaluation of HCCA patient samples. Title: “Identification of new Treatment Diseases”. UCM: Álvaro Gutierrez Uzquiza (IP), Paloma Bragado. Arthic Therapeutic CEO: Ivor Hakonarson. 5000€