

CÁTIA MOUTINHO



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Metrics

- Years of experience after PhD: **10**
- H index: **41**
- Citations: **6655**
- Total Number of publications: **44**
- Number of publications in Q1 over the last 5 years: **15**
- Book Chapter: **1**
- Co-directed PhD thesis: **3**
- Google Scholar:
<https://bit.ly/3UAMxBC>
- ORCID n.: **0000-0003-3885-0847**

Languages

Portuguese: Mother Tongue

English: Fluent (C2 level)

Spanish: Fluent (C2 level)

Catalan: Beginner (A2 level)

French: Beginner (A1 level)

Academic Education

Master's In Clinical Trials And Medical Affairs (2016)

CESIF, Barcelona, Spain

Doctorate in Biomedicine (2014)

Barcelona University, Barcelona, Spain

Master's in Medicine and Molecular Oncology (2008)

Faculty of Medicine, University of Porto, Porto, Portugal

Bachelor's of Biology (2002)

Azores University, Ponta Delgada, Portugal

Professional Experience

The Single-Cell World | Lecture and Scientific Consultant

2022 – Present

Key responsibilities:

- Founded an educational platform for scientists
- Scientific Advisor, Lecturer and Mentor

Advice For Life Scientists | Mentor and Coach

2021 – Present

Key responsibilities:

- Co-founded a mentoring platform for life scientists
- Science communication

GWCCG | Associated Director & Group Leader

2020 – 2022

Key responsibilities:

- Guided the strategic direction of the institution
- Led a team of ten dedicated researchers
- Supervised and directed numerous research projects

CNAG & IDEIBELL | Postdoctoral Scientist

2015 – 2019

Key responsibilities:

- Managed and executed multiple research projects
- Supervised multiple PhD and master's students

IDEIBELL | Doctoral Researcher

2010 – 2014

Key responsibilities:

- Conducted research projects in Cancer Epigenetic.

CNIO | Laboratory Technician

2007 – 2009

Key responsibilities:

- Worked on different research projects in Epigenetic.

IPATIMUP| Scientific Researcher & Master Student

2003 – 2008

Key responsibilities:

- Collaborated and performed different research project in Cancer Genetics

Academic Experience

THESIS SUPERVISION

2020: PERE LLINÀS ARIAS | Postdoctoral fellow at IdISBa (Spain)

PhD Thesis: "Epigenetic silencing of SVIP promotes a metabolic shift in cancer cells".

2019: MONTERRAT PEREZ SALVIÀ PHD CO-DIRECTOR | Scientist at Skyhawk Therapeutics (Switzerland)

PhD Thesis: "Epigenetic Regulation of Lysine Acetylation: Targeting Writers, Readers and Erasers in Cancer."

2014: RUTE ABRANTES LOUREIRO CO-DIRECTOR | Research Scientist -Translational Biomarkers (Germany)

PhD Thesis: "Epigenetic Mechanisms in DNA Replication"

COURSES

- **Exploring Single-Cell Sequencing Technology** |The Single-Cell World Course
- **Fundamentals of Epigenetics** | Bioscience Egypt Course
- **Introduction to Single-Cell Research | Class** at the "Introducció A L'epigenètica I Aplicabilitat En La Medicina Personalitzada" course, Colegio de Farmacéuticos de Barcelona
- **Cancer Epigenetics** | Classes as invited lecturer for the Biomedical Master and PhD Courses from Barcelona University

WORKSHOPS

- **Single-Cell Sequencing Technology: Mastering Experimental Planning** | Mallorca University, Spain. (2024)
- **Single Cell Analysis Workshop** | The Festival of Genomics 2024, London, Uk. (2024)
- **Spatial Analysis Workshop** | The Festival of Genomics 2024, London, Uk. (2024)
- **Single-Cell and Spatial Technologies: Unlocking New Frontiers in Biology** | Faro University, Portugal (2023)
- **Bridge the communication with your lab supervisor** | Encodes 2023, Faro University
- **Leading with Inspiration** | Advice For Life Scientists
- **Science Spotlight** | Advice For Life Scientists

Publications

- Massoni-Badosa R, Aguilar-Fernández S, Nieto JC, et al. An atlas of cells in the human tonsil. **Immunity**. **2024** Feb 13;57(2):379–399.e18. doi: 10.1016/j.immuni.2024.01.006. Epub 2024 Jan 31. PMID: 38301653.
- Lim J, Chin V, Fairfax K, et al. Transitioning Single-Cell Genomics into the Clinic. **Nat Rev Genet**. **2023** Aug; doi: 10.1038/s41576-023-00613-w. [Epub ahead of print] PMID: 37258725
- Neavin DR, Steinmann AM, Farbehi N, et al. A Village in a Dish Model System for Population-Scale HiPSC Studies. **Nat Commun**. **2023** Jun; doi: 10.1038/s41467-023-38704-1. PMID: 37296104.
- Nieto P, Elosua-Bayes M, Trincado JL, et al. A Single-Cell Tumor Immune Atlas for Precision Oncology. **Genome Res**. **2021** Oct; doi: 10.1101/gr.273300.120. PMID: 34616007.
- Karamperis K, Tsoumpeli MT, Kounelis F, et al. Genome-Based Therapeutic Interventions for β -Type Hemoglobinopathies. **Hum Genomics**. **2021** Jun; doi: 10.1186/s40246-021-00329-0. PMID: 34090531.

Selected Publications – *Cont'd*

- Rubio-Perez C, Planas-Rigol E, Trincado JL, et al. Immune Cell Profiling of the Cerebrospinal Fluid Enables the Characterization of the Brain Metastasis Microenvironment. **Nat Commun.** **2021** Mar; doi: 10.1038/s41467-021-21789-x. PMID: 33686071.
- Morral C, Stanisavljevic J, Hernando-Momblona X, et al. Zonation of Ribosomal DNA Transcription Defines a Stem Cell Hierarchy in Colorectal Cancer. **Cell Stem Cell.** **2020** Jun; doi: 10.1016/j.stem.2020.04.012. PMID: 32386547.
- Fernández-Rodríguez J, Morales La Madrid A, et al. Use of Patient Derived Orthotopic Xenograft Models for Real-Time Therapy Guidance in a Pediatric Sporadic Malignant Peripheral Nerve Sheath Tumor. **Ther Adv Med Oncol.** **2020**; doi: 10.1177/1758835920929579. PMID: 32528741.
- Mereu E, Lafzi A, **Moutinho C**, Ziegenhain C, et al. Benchmarking Single-Cell RNA-Sequencing Protocols for Cell Atlas Projects. **Nat Biotechnol.** **2020** Jun; doi: 10.1038/s41587-020-0469-4. PMID: 32341562.
- Massoni-Badosa R, Iacono G, Moutinho C, et al. Sampling Time-Dependent Artifacts in Single-Cell Genomics Studies. **Genome Biol.** **2020** May; doi: 10.1186/s13059-020-02032-0. PMID: 32450814.
- Vara C, Paytuví-Gallart A, Cuartero Y, et al. Three-Dimensional Genomic Structure and Cohesin Occupancy Correlate with Transcriptional Activity during Spermatogenesis. **Cell Rep.** **2019** Jul; doi: 10.1016/j.celrep.2019.06.037. PMID: 31315038.
- Llinàs-Arias P, Rosselló-Tortella M, López-Serra P, et al. Epigenetic Loss of the Endoplasmic Reticulum-Associated Degradation Inhibitor SVIP Induces Cancer Cell Metabolic Reprogramming. **JCI Insight.** **2019** Mar; doi: 10.1172/jci.insight.125888. PMID: 30721153.
- Belhadj S, **Moutinho C**, Mur P, Setien F, et al. Germline Variation in O6-Methylguanine-DNA Methyltransferase (MGMT) as Cause of Hereditary Colorectal Cancer. **Cancer Lett.** **2019** Apr; doi: 10.1016/j.canlet.2019.01.019. PMID: 30708003.
- Lafzi A, **Moutinho C**, Picelli S, Heyn H. Tutorial: Guidelines for the Experimental Design of Single-Cell RNA Sequencing Studies. **Nat Protoc.** **2018** Dec; doi: 10.1038/s41596-018-0073-y. PMID: 30504869.
- Pérez-Salvia M, Aldaba E, Vara Y, et al. In Vitro and in Vivo Activity of a New Small-Molecule Inhibitor of HDAC6 in Mantle Cell Lymphoma. **Haematologica.** **2018** Nov; doi: 10.3324/haematol.2018.189241. PMID: 30262545.
- Piulats JM, Vidal A, García-Rodríguez FJ, Muñoz C, et al. Orthoxenografts of Testicular Germ Cell Tumors Demonstrate Genomic Changes Associated with Cisplatin Resistance and Identify PDMP as a Resensitizing Agent. **Clin Cancer Res.** **2018** Aug; doi: 10.1158/1078-0432.ccr-17-1898. PMID: 29769205.
- Mereu E, Iacono G, Guillaumet-Adkins, et al. MatchScore: Matching Single-Cell Phenotypes Across Tools and Experiments. **bioRxiv.** **2018**; doi: 10.1101/314831.

Selected Publications – *Cont'd*

- Anadón C, van Tetering G, Ferreira HJ, et al. Epigenetic Loss of the RNA Decapping Enzyme NUDT16 Mediates C-MYC Activation in T-Cell Acute Lymphoblastic Leukemia. **Leukemia**. 2017 Jul; doi: 10.1038/leu.2017.99. PMID: 28349904.
- Pérez-Salvia M, Simó-Riudalbas L, Llinàs-Arias P, et al. Bromodomain Inhibition Shows Antitumoral Activity in Mice and Human Luminal Breast Cancer. **Oncotarget**. 2017 May; doi: 10.18632/oncotarget.18255. PMID: 28380444.
- **Moutinho C**, Esteller M. MicroRNAs and Epigenetics. **Adv Cancer Res**. 2017; doi: 10.1016/bs.acr.2017.06.003. PMID: 28838610.
- Amatu A, Barault L, **Moutinho C**, et al. Tumor MGMT Promoter Hypermethylation Changes over Time Limit Temozolomide Efficacy in a Phase II Trial for Metastatic Colorectal Cancer. **Ann Oncol**. 2016 Jun; doi: 10.1093/annonc/mdw071. PMID: 26977047.
- Diaz-Lagares A, Crujeiras AB, Lopez-Serra P, et al. Epigenetic Inactivation of the P53-Induced Long Noncoding RNA TP53 Target 1 in Human Cancer. **Proc Natl Acad Sci U S A**. 2016 Nov; doi: 10.1073/pnas.1608585113. PMID: 27799528.
- Moran S, Martínez-Cardús A, Sayols S, et al. Epigenetic Profiling to Classify Cancer of Unknown Primary: A Multicentre, Retrospective Analysis. **Lancet Oncol**. 2016 Oct; doi: 10.1016/s1470-2045(16)30297-2. PMID: 27686946.
- Martínez-Cardús A, Moran S, Musulen E, **Moutinho C**, et al. Epigenetic Homogeneity Within Colorectal Tumors Predicts Shorter Relapse-Free and Overall Survival Times for Patients With Locoregional Cancer. **Gastroenterology**. 2016 Nov; doi: 10.1053/j.gastro.2016.08.001. PMID: 27569551.
- Nogales V, Reinhold WC, Varma S, et al. Epigenetic Inactivation of the Putative DNA/RNA Helicase SLFN11 in Human Cancer Confers Resistance to Platinum Drugs. **Oncotarget**. 2016 Jan; doi: 10.18632/oncotarget.6413. PMID: 26682552.
- Anadón C, Guil S, Simó-Riudalbas L, **Moutinho C**, et al. Gene Amplification-Associated Overexpression of the RNA Editing Enzyme ADAR1 Enhances Human Lung Tumorigenesis. **Oncogene**. 2016 Aug; doi: 10.1038/onc.2016.27. PMID: 26804176.
- Ferreira HJ, Heyn H, Vizoso M, **Moutinho C**, et al. DNMT3A Mutations Mediate the Epigenetic Reactivation of the Leukemogenic Factor MEIS1 in Acute Myeloid Leukemia. **Oncogene**. 2016 Jun; doi: 10.1038/onc.2015.359. PMID: 26257065.
- Stefanovic M, Tutusaus A, Martinez-Nieto GA, et al. Targeting Glucosylceramide Synthase Upregulation Reverts Sorafenib Resistance in Experimental Hepatocellular Carcinoma. **Oncotarget**. 2016 Feb; doi: 10.18632/oncotarget.6982. PMID: 26735652.
- Sáez MA, Fernández-Rodríguez J, Moutinho C, et al. Mutations in JMJD1C Are Involved in Rett Syndrome and Intellectual Disability. **Genet Med**. 2016 Apr; doi: 10.1038/gim.2015.100. PMID: 26110210.
- Ter Brugge P, Kristel P, van der Burg E, et al. Mechanisms of Therapy Resistance in Patient-Derived Xenograft Models of BRCA1-Deficient Breast Cancer. **J Natl Cancer Inst**. 2016 Nov; doi: 10.1093/jnci/djw148. PMID: 27440574.

Selected Publications – *Cont'd*

- Barault L, Amatu A, Bleeker FE, et al. Digital PCR Quantification of MGMT Methylation Refines Prediction of Clinical Benefit from Alkylating Agents in Glioblastoma and Metastatic Colorectal Cancer. **Ann Oncol.** **2015** Sep; doi: 10.1093/annonc/mdv272. PMID: 26206799.
- Vizoso M, Ferreira HJ, Lopez-Serra P, et al. Epigenetic Activation of a Cryptic TBC1D16 Transcript Enhances Melanoma Progression by Targeting EGFR. **Nat Med.** **2015** Jul; doi: 10.1038/nm.3863. PMID: 26098909.
- Martinez-Balibrea E, Martínez-Cardús A, Ginés A, et al. Tumor-Related Molecular Mechanisms of Oxaliplatin Resistance. **Mol Cancer Ther.** **2015** Aug; doi: 10.1158/1535-7163.mct-14-0636. PMID: 26048212.
- Simó-Riudalbas L, Pérez-Salvia M, Setien F, et al. KAT6B Is a Tumor Suppressor Histone H3 Lysine 23 Acetyltransferase Undergoing Genomic Loss in Small Cell Lung Cancer. **Cancer Res.** **2015** Sep; doi: 10.1158/0008-5472.can-14-3702. PMID: 26282168.
- Boque-Sastre R, Soler M, Oliveira-Mateos C, Portela A, Moutinho C, Sayols S, Villanueva A, Esteller M, Guil S. Head-to-Head Antisense Transcription and R-Loop Formation Promotes Transcriptional Activation. **Proc Natl Acad Sci U S A.** **2015** May; doi: 10.1073/pnas.1421197112. PMID: 25941363.
- Heyn H, Sayols S, **Moutinho C**, et al. Linkage of DNA Methylation Quantitative Trait Loci to Human Cancer Risk. **Cell Rep.** **2014** Apr; doi: 10.1016/j.celrep.2014.03.016. PMID: 24726365.
- **Moutinho C**, Martinez-Cardús A, Santos C, et al. Epigenetic Inactivation of the BRCA1 Interactor SRBC and Resistance to Oxaliplatin in Colorectal Cancer. **J Natl Cancer Inst.** **2014** Jan; doi: 10.1093/jnci/djt322. PMID: 24285885.
- Rodriguez-Paredes M, Martinez de Paz A, Simó-Riudalbas L, et al. Gene Amplification of the Histone Methyltransferase SETDB1 Contributes to Human Lung Tumorigenesis. **Oncogene.** **2014** May; doi: 10.1038/onc.2013.239. PMID: 23752189.
- Juliachs M, Muñoz C, **Moutinho C**, et al. The PDGFR β -AKT Pathway Contributes to CDDP-Acquired Resistance in Testicular Germ Cell Tumors. **Clin Cancer Res.** **2014** Feb; doi: 10.1158/1078-0432.ccr-13-1131. PMID: 24323900.
- Lopez-Serra P, Marcilla M, Villanueva A, et al. A DERL3-Associated Defect in the Degradation of SLC2A1 Mediates the Warburg Effect. **Nat Commun.** **2014** Apr; doi: 10.1038/ncomms4608. PMID: 24722189.
- Amatu A, Sartore-Bianchi A, **Moutinho C**, et al. Promoter CpG Island Hypermethylation of the DNA Repair Enzyme MGMT Predicts Clinical Response to Dacarbazine in a Phase II Study for Metastatic Colorectal Cancer. **Clin Cancer Res.** **2013** Apr; doi: 10.1158/1078-0432.ccr-12-3518. PMID: 23355001.
- Ferreira HJ, Heyn H, **Moutinho C**, Esteller M. CpG Island Hypermethylation-Associated Silencing of Small Nucleolar RNAs in Human Cancer. **RNA Biol.** **2012** Jun; doi: 10.4161/rna.19353. PMID: 22634449.

Selected Publications – *Cont'd*

- Davalos V, **Moutinho C**, Villanueva A, et al. Dynamic Epigenetic Regulation of the MicroRNA-200 Family Mediates Epithelial and Mesenchymal Transitions in Human Tumorigenesis. **Oncogene**. **2012** Apr; doi: 10.1038/onc.2011.383. PMID: 21892204.
- Melo S, Villanueva A, Moutinho C, Davalos V, Spizzo R, Ivan C, Rossi S, et al. Small Molecule Enoxacin Is a Cancer-Specific Growth Inhibitor That Acts by Enhancing TAR RNA-Binding Protein 2-Mediated MicroRNA Processing. **Proc Natl Acad Sci U S A**. **2011** Mar; doi: 10.1073/pnas.1014720108. PMID: 21321207.
- Melo SA, **Moutinho C**, Ropero S, et al. A Genetic Defect in Exportin-5 Traps Precursor MicroRNAs in the Nucleus of Cancer Cells. **Cancer Cell**. **2010** Oct; doi: 10.1016/j.ccr.2010.09.007. PMID: 20951948.
- Melo SA, Ropero S, **Moutinho C**, et al. A TARBP2 Mutation in Human Cancer Impairs MicroRNA Processing and DICER1 Function. **Nat Genet**. **2009** Mar; doi: 10.1038/ng.317. PMID: 19151714.
- Velho S, **Moutinho C**, Cirnes L, et al. BRAF, KRAS and PIK3CA Mutations in Colorectal Serrated Polyps and Cancer: Primary or Secondary Genetic Events in Colorectal Carcinogenesis? **BMC Cancer**. **2008** Sep; doi: 10.1186/1471-2407-8-255. PMID: 18817501.
- **Moutinho C**, Mateus AR, Milanezi F, et al. Epidermal Growth Factor Receptor Structural Alterations in Gastric Cancer. **BMC Cancer**. **2008** Jan; doi: 10.1186/1471-2407-8-10. PMID: 18205967.
- Preto A, **Moutinho C**, Velho S, Oliveira C, Rebocho AP, Figueiredo J, Soares P, Lopes JM, Seruca R. A Subset of Colorectal Carcinomas Express C-KIT Protein Independently of BRAF and/or KRAS Activation. **Virchows Arch**. **2007** Jun; doi: 10.1007/s00428-007-0420-9. PMID: 17549401.
- Oliveira C, Velho S, **Moutinho C**, et al. KRAS and BRAF Oncogenic Mutations in MSS Colorectal Carcinoma Progression. **Oncogene**. **2007** Jan; doi: 10.1038/sj.onc.1209758. PMID: 16909117.
- Carneiro F, **Moutinho C**, Pera G, et al. Pathology Findings and Validation of Gastric and Esophageal Cancer Cases in a European Cohort (EPIC/EUR-GAST). **Scand J Gastroenterol**. **2007** May; doi: 10.1080/00365520601101641. PMID: 17454844.
- Buffart TE, Carvalho B, Mons T, Reis RM, et al. DNA Copy Number Profiles of Gastric Cancer Precursor Lesions. **BMC Genomics**. **2007** Oct; doi: 10.1186/1471-2164-8-345. PMID: 17963435.
- Carvalho B, Buffart TE, Reis RM, et al. Mixed Gastric Carcinomas Show Similar Chromosomal Aberrations in Both Their Diffuse and Glandular Components. **Cell Oncol**. **2006**; doi: 10.1155/2006/650620. PMID: 17119268.
- Domingo E, Niessen RC, Oliveira C, et al. BRAF-V600E Is Not Involved in the Colorectal Tumorigenesis of HNPCC in Patients with Functional MLH1 and MSH2 Genes. **Oncogene**. **2005** Jun; doi: 10.1038/sj.onc.1208569. PMID: 15735684.
- Oliveira C, de Bruin J, Nabais S, et al. Intragenic Deletion of CDH1 as the Inactivating Mechanism of the Wild-Type Allele in an HDGC Tumour. **Oncogene**. **2004** Mar; doi: 10.1038/sj.onc.1207335. PMID: 14767468.