Ana **Catarina** Maurício **Brito** Ataíde Montes

Contact: anabrito@itqb.unl.pt

www.itqb.unl.pt/research/technology/advanced-cell-models

Orcid: 0000-0002-8926-279X

ResearcherID: A-2389-2009

Scopus: 7007023897

SHORT BIOGRAPHY

Catarina Brito has been the group leader of the Advanced Cell Models Laboratory of the Animal Cell Technology Unit of ITQB NOVA and iBET (PT), since 2014. Her laboratory was integrated into the Technology Division of ITQB NOVA in 2015. Since February 2023, she has been a Principal Investigator at ITQB NOVA. Catarina has been a member of the Management Board of the Research Unit iNOVA4Health since 2018. She holds a PhD in Biochemistry & Cell Biology (ITQB NOVA & Institut Jacques Monod, France) and a Biochemistry (FCUL) degree.

The Brito's Lab focuses on microenvironment-driven modulation of disease progression and targeted therapy response, through the development and interrogation of in vitro and ex vivo models of the disease microenvironment (emphasis on breast carcinoma and central nervous system pathologies). The group has pioneered cell-based strategies to tackle challenges in the imminent areas of cancer immunotherapies and viral vector-based gene therapies. C Brito's research focuses on chronic inflammation and myeloid cell-driven immunosuppressive microenvironments, along two central research lines: 1. Macrophage-tumor cell crosstalk within the tumor microenvironment in immunosuppression and resistance to immunomodulatory therapies; 2. Neuron-glia crosstalk in neuroinflammation and innate immune response to viral vector-based gene therapies.

C Brito has coordinated 18 projects, securing competitive funding from Fundação para a Ciência e Tecnologia (FCT), the European Commission and EFPIA, and the pharmaceutical industry. With over 80 papers (25 as senior author), she has supervised/co-supervised 16 PhD students (12 concluded). As of May 1st, 2024, C. Brito's Scopus citation report included 92 documents, an h-index of 29, and 3573 citations. C Brito was an invited lecturer in seminar cycles and workshops (academic – 22, and industrial - 7), international conferences (49), and courses (12), of a total of over 90 oral communications as presenting corresponding author. She authored more than 150 posters as the presenting and/or corresponding author, of a total of over 250 posters. C Brito lectures in international courses, and MSc and PhD programs (NOVA University and Lisbon University). She has been the coordinator of the "Tools for Discovery and Preclinical Research" curricular unit of the MolBioS PhD program (ITQB NOVA) since 2013 and co-coordinated the Drug Discovery and Development course of the European Society for Animal Cell Technology ESACT (2014

– 2022). Brito has been a member of international (e.g., JPND; AVIESAM, France; The Research Council of Norway) and national evaluation committees (e.g., FCT call for PhD fellowships, FCT; PO Norte 2020; AICEP) and is a regular expert reviewer for international evaluation committees (e.g., ANR, France; Swiss National Science Foundation; UK Research and Innovation; Medical Research Council UK).

5 selected publications (as corresponding author)

1. Rebelo SP, Pinto C, Martins TR, Harrer N, Estrada MF, Loza-Alvarez P, Cabeçadas J, Alves PM, Gualda E, Sommergruber W, **Brito C*** (2018) *"3D-3-culture: a tool to unveil macrophage plasticity in the tumor microenvironment"*, *Biomaterials,* 163, 185-197. https://doi.org/10.1016/j.biomaterials.2018.02.030
2. Simão D, Silva MM, Terrasso AP, Arez F, Sousa MFQ, Mehrjardi NZ, Šarić T, Gomes-Alves P, Raimundo N, Alves PM, **Brito C*** (2018) *"Recapitulation of human neural microenvironment signatures in iPSC-derived NPC 3D differentiation"*, *Stem Cell Reports*, 11, 552-564. https://doi.org/10.1016/j.stemcr.2018.06.020
3. Cartaxo AL, Estrada MF, Domenici G, Roque R, Silva F, Gualda EJ, Loza-Alvarez P, Sflomos G, Brisken C, Alves PM, André S, **Brito C*** (2020) *"A novel culture method that sustains ERα signaling in human breast cancer tissue microstructures"*, *Journal of Experimental and Clinical Cancer Research* 39, 161. http://dx.doi.org/10.1186/s13046-020-01653-4
4. Batalha S, Gomes CM, **Brito C*** (2023) "*Immune microenvironment dynamics of HER2 overexpressing breast cancer under dual anti-HER2 blockade", Frontiers in Immunology – Section Cancer Immunity and Immunotherapy* 14: 1267621. https://doi.org/10.3389/fimmu.2023.1267621
5. Gomes CM, Sebastião MJ, Silva G, Moura F, Simão D, Gomes-Alves P, Alves PM, **Brito C*** (2024) "*Miniaturization of hiPSC-derived 3D neural cultures in stirred-tank bioreactors for parallelized preclinical assessment of rAAV". Frontiers in Bioengineering and Biotechnology* 12:1379597. https://doi.org/10.3389/fbioe.2024.1379597

5 selected projects (as PI/co-PI)

1. *2011-2016: "PREDECT - New models for preclinical evaluation of drug efficacy in common solid tumors",* funded by Innovative Medicines Initiative Joint Undertaking (IMI) – PI at iBET.
2. 2018-2021: *"AstroReact - Unravelling the role of astrocyte-induced neural microenvironment remodeling in traumatic brain injury pathobiology"*, funded by FCT, Portugal (co-PI with Daniel Simão, iBET).
3. 2020-2025: *"ARDAT - Accelerating Research & Development for Advanced Therapies",* funded by Innovative Medicines Initiative Joint Undertaking (IMI) – PI at iBET.
4. 2021-2024: *"Glyco-TAM – Cracking glycan-lectin interactions to target immunosuppressive macrophages in triple-negative breast cancer"*, PTDC/BTM-TEC/0432/2021, funded by FCT, Portugal.
5. *2021- 2025*: "*Preclinical human cell models to tackle early tissue response to gene therapy vectors*", Boehringer Ingelheim, Germany.