

Código do Concurso | 02/SAICT/2017

Designação do projeto | PTDC/MED-ONC/30436/2017.: Como colesterol promove a metastização em cancro de mama

Referência do projeto | PTDC/MED-ONC/30436/2017

Entidade beneficiária proponente | Instituto de Medicina Molecular João lobo Antunes

Entidade beneficiária participante | Instituto de Medicina Molecular João lobo Antunes

Data de aprovação | 23-03-2018

Data de início | 01-10-2018

Data de conclusão | 30-09-2021

Custo total elegível | 190.615,36 euros

Apoio financeiro Orçamento de Estado | 190.615,36 euros

In this Project we explored the function of LDL cholesterol in modulating the aggressive behavior of breast cancer cells. This included studying: 1. the mechanisms by which LDL cholesterol induces a vascular mimicry-like phenotype on subsets of breast cancer cells; 2. The effects of LDL cholesterol exposure on the modulation of mitochondrial metabolism on breast cancer cells; 3. The mechanisms of immune cell modulation by LDL cholesterol exposure. This resulted in the participation of Team members in High profile International and National meetings where the main results were presented as oral communications and/or Poster presentations and also in the completion of Master Theses.

Selected outputs:

- Sérgio Dias. Mitochondrial dynamics underlie phenotypic shifts induced by hypercholesterolemia. Cell Symposia. Hallmarks of Cancer. Seattle, USA. 17-19th November 2019.
 - LDL-cholesterol favors vascular invasion by breast cancer cells Ana Magalhães, Vanessa Cesário, Catarina Pinheiro, Germana Domingues, Sérgio Dias. EACR-MRS Conference on Seed and Soil: Mechanisms of Metastasis - Berlin, Germany, 7-9 October 2019
 - Teresa Serafim and Sérgio Dias. Metabolic reprogramming of pulmonary metastasis. 2nd FEBS Advanced Course on Oncometabolism. Luso, Portugal. 1-6 September 2019.
 - Ana Magalhães. High systemic LDL accelerates the intravasation of breast cancer cells through a vascular-mimicry like mechanism- Liga Portuguesa Contra o Cancro - NRS- Webinar - Cancer Biology: From Basic to Translational Research” – Friday - 25th September - Lisbon, Portugal
 - T. L. Serafim, R. Marques, C. Deus, F. Silva, V. A. Sardão, S. Dias, P. J. Oliveira. *Glucose dependence and metabolic reprogramming of commercial breast cancer cells* EACR-AACR-ASPIC Conference on Tumor Microenvironment. Lisbon, Portugal, 02-04 March 2020.
 - Sérgio Dias. Goodbye Flat Biology: Next Generation Cancer Models virtual meeting organized by the European Association for Cancer Research (EACR). October 2021.
 - Teresa Serafim, Sérgio Dias. NanoTME: Nanomedicine meets the tumor microenvironment virtual Meeting organized by the International Cancer Microenvironment Society and the University of Twente, The Netherlands. September 2021.
- Integrated Masters in Medicine Thesis:
The role of mitochondrial metabolism in breast cancer aggressive phenotype induced by hypercholesterolemia. Maria Beatriz Morgado. 2018. FMUL.