CANCER IMMUNITY JUNIOR GROUP

María Casanova-Acebes
Junior Group Leader

Gradutate Students
Eduardo Garvín (since December), Federico Lupo (until April), Mariola Munárriz (since November), Enrique Nogueira (until October)

Technicians
Nines Sanguino Acosta (until October), Sheila Artesero (since April)

Bioinformatician
Gonzalo Soria (since April)

Students in Practice
Sheila Artesero (since May) (Master´s Thesis, *ENS-ISCIII*, Madrid, Spain),

Lucía Córdoba (until April) (Bachelor's Degree Final Project, *UCM,* Madrid, Spain), Ainhoa Muñoz (until May) (Bachelor's Degree Final Project, *UAM,* Madrid, Spain)

OVERVIEW

The Cancer Immunity lab studies myeloid cells in the different tumour microenvironments. By focusing on the remarkable heterogeneity of these cells in a tissue-based manner, we aim to uncover their functional roles in shaping T cell responses.

First, we focus on how myeloid training can impact long-term anti-tumour responses. Next, we study how resident macrophages in the lung and in the ovary shape tumour-associated fibroblasts and metabolic responses, respectively. Lastly, we analyse how circadian biology impacts the initiation, progression and unresponsiveness to current therapies in lung cancer.

"Our laboratory is dissecting novel modulators of tumour immunity by analysing the crosstalk of myeloid cells with the stroma and other physiological cues, such as time-dependency of immune responses and diet-modulatory effects on suppressive and malignant haematopoiesis in solid tumours."

HIGHLIGHTS

During 2022, we consolidated our laboratory and achieved competitive national and international funding.

We also hosted and trained 2 bioinformaticians, 2 medical doctors and 3 undergraduate students.

In 2023, we aim to expand our team and to continue to fight for cancer cures using innovative myeloid targeting. ■

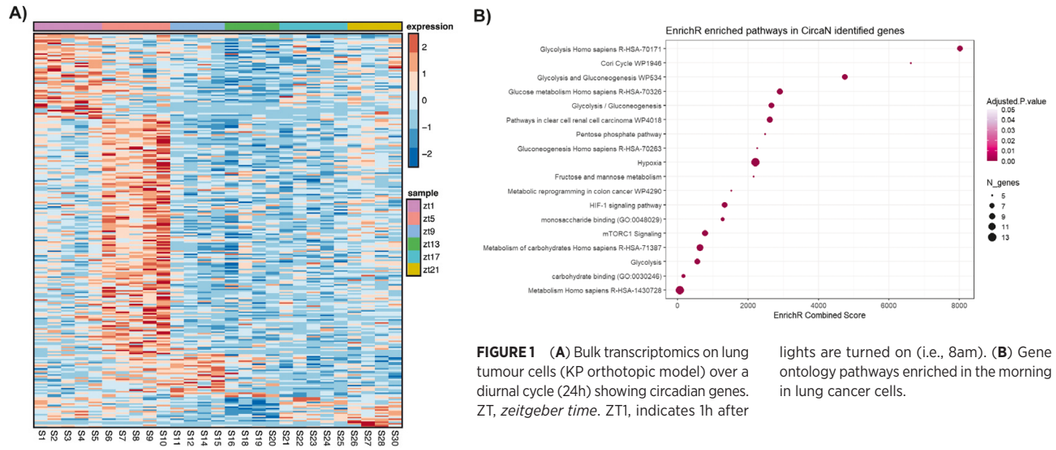

FIGURE 1 (**A**) Bulk transcriptomics on lung tumour cells (KP orthotopic model) over a diurnal cycle (24h) showing circadian genes. ZT, *zeitgeber time*. ZT1, indicates 1h after lights are turned on (i.e., 8am). (**B**) Gene ontology pathways enriched in the morning in lung cancer cells.

PUBLICATION

- Grout JA, Sirven P, Leader AM, Maskey S, Hector E, Puisieux I, Steffan F, Cheng E, Tung N, Maurin M, Vaineau R, Karpf L, Plaud M, Begue AL, Ganesh K, Mesple J, Casanova-Acebes M, Tabachnikova A, Keerthivasan S, Lansky A, Le Berichel J, Walker L, Rahman AH, Gnjatic S, Girard N, Lefevre M, Damotte D, Adam J, Martin JC, Wolf A, Flores RM, Beasley MB, Pradhan R, Muller S, Marron TU, Turley SJ, Merad M, Kenigsberg E, Salmon H (2022). Spatial positioning and matrix programs of cancer-associated fibroblasts promote T-cell exclusion in human lung tumors. *Cancer Discov* 12, 2606-2625.

AWARDS AND RECOGNITION

- *XXII Beca FERO* 2022 in Translational Oncology Research, FERO Foundation for Oncology Research, Spain.
- Education Committee Member, AACR Annual Meeting 2023.