Master program in Cancer Biology

Internship proposal form 2024

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x **MASTER 1**

x **MASTER 2**

Title	Characterization residual cells (DTPs) post-treatment with carboplatin by single-cell analysis using HGSOC PDX: Biological mechanisms; Residual cell markers; Candidate drugs to target DTPs.
Host laboratory	Genetic and phenotypic plasticity of cancer : C. Sardet, IRCM, Inserm U1194, 208 avenue des Apothicaires 34298 Montpellier
Name of the PI	Stanislas du manoir
Supervisor	Stanislas du manoir
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Description (10 lines)	We have characterized drug tolerant persisters (DTPs) in ovarian cancer PDXs (patient derived xenografts) after carboplatin treatment (du manoir et al, J Pathol 2022, PMID: 35302657). These PDXs model well the clinical history of the patients. We have identified three proteins over-expressed in residual cells (CEACAM6, CRYAB, SOX2) and tumors rendered resistant in vivo. Recently (sept 23), we carried out singlecellRNAseq experiments for three for three residual PDXs. Bioinformatic analysis is on going to identified biological processes and biomarkers modulated in DTP. We want to check whether these three proteins (and other candidates coming from our single cell analysis) are indeed over-expressed in DTPs, in ovarian cancer samples from patients before and after neo-adjuvant chemotherapy (20 couples). These experiments will be carried out using multi-color IF on parafin sections. Depending on pathway identified by Rnaseq, we may attempt to inhibit DTP formation in PDX cell lines in vitro.
Duration (2 to 6 months)	5-6 months