



Research We Fund



Project:

Identifying new treatment options for the rare and aggressive ovarian carcinosarcoma

Research team:

Dr Holly Barker,

Dr Kristy Shield-Artin, Dr Cassandra Vandenberg,
Dr Gayanie Ratnayake

Institution: The Walter and Eliza Hall Institute of Medical Research

Cancer type: Gynaecological

Years funded: 2020–2022. This project is co-funded by the Ovarian Cancer Research Foundation.

What is the project?

Ovarian carcinosarcoma (OCS) is an aggressive cancer with few treatment options. We have a unique toolbox of pre-clinical models of OCS, which we will use to test new treatment options. We will develop organoid models test potential drugs identified in our drug screens, and potential targets identified in our genetic screens. This will generate top quality data which can be translated to a clinical setting, meaning faster outcomes for patients.

What is the need?

OCS is an aggressive tumour type in desperate need of better evidence-based treatment options. Currently, patients with OCS are routinely treated with therapies used for high-

grade serous ovarian cancer given the lack of alternatives, but clinical trial results show patients with OCS consistently have worse outcomes when compared to the high-grade serous patients. The low incidence of OCS makes it difficult to trial different treatment options. This project aims to challenge and refine the current treatment strategy of this rare, aggressive cancer. From this study we can learn valuable lessons to benefit many rare cancer patients.

What are you trying to achieve?

As ovarian carcinosarcoma is a rare cancer which sees low survivorship, we aim to further understand why OCS is so much more aggressive than other subtypes of ovarian cancer. We also hope to find new treatment options for this rare cancer to improve patient survival.

Project timeline

Timeline	2020	2021	2022
Development of organoid models ongoing, validation of drug and gene-testing (CRISPR) screen hits underway	■		
Analysis of pathway-targeting drugs and validation of drug screen hits completed; validation of screen hits in our models to commence; high-throughput organoid assay finalised with validations ongoing		■	
Development and use of organoid assay completed; validation of CRISPR screen hits completed; analysis of drugs identified in the screens and of combination treatments finalised			■

“Ovarian carcinosarcoma desperately needs better evidence-based treatment options. Through this project, we hope to challenge and refine the current treatment strategy for this rare, aggressive cancer. From this study, we can learn valuable lessons to benefit many rare cancer patients.”