CASE STUDY

Can the nCounter® Vantage 3D™ assay stratify pancreatic ductal adenocarcinoma (PDAC) patients who may benefit from chemotherapy treatment?

Who: Chanthirika Ragulan, The Institute of Cancer Research

Chanthirika is an enthusiastic and experienced cell and molecular biologist in the field of cancer research. She has worked for the Institute of Cancer Research (ICR) as a Scientific Officer in Dr. Anguraj Sadanandam's laboratory since 2014. Her main focus is investigating multi-omic signatures in PDAC with her team members in the Laboratory of Systems and Precision Cancer Medicine. Chanthirika completed her Bachelor of Science (Hons.) degree at Wayamba University, Sri Lanka, with specialization in the biotechnology field. She graduated from The Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo, Sri Lanka with Distinction in her Masters of Science in Molecular Life Sciences. Chanthirika worked as a Teaching and Research Assistant at the University of Colombo before she moved to ICR.

Why 3D Biology™ technology?

In PDAC the development of molecular subtyping heralds a potential new era for patient selection for treatment. There is now an urgent need to capitalize on advances in subtyping, to consider rational novel therapeutic combinations and to develop methods to appropriately select those patients who may benefit. The nCounter Vantage 3D Assays provide a fantastic opportunity to fully interrogate these precious patient samples and obtain the maximum biological data possible. In pancreatic cancer obtaining adequate tissue samples for translational research has historically been particularly difficult, hampering progress in this area. Being able to compare genotype, gene, and protein expression in a single view will enable us to really make the most of these fresh frozen paraffin embedded (FFPE) samples and answer this important clinical and biological question.

Aim of the project:

This pilot study will form a basis for further research in PDAC, considering the role of subtyping in predicting response to other treatments, including immunotherapy, and will enable us to plan future translational clinical studies with optimum patient selection to maximize the chance of successful treatment for patients.

Methods:

We have a clinical database of over 100 patients who have been treated with chemotherapy at the Royal Marsden Hospital and have access to samples. We will select 36 patients with poor or exceptional responses to chemotherapy and using 3D Biology Technology we will establish if there is a molecular or immune basis for the disparity in their responses.

nCounter® Vantage 3D™ Assay selection:

nCounter Vantage 3D DNA SNV Solid Tumor Panel + RNA:Protein Solid Tumor Assay for FFPE

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