# RGCC International Research Genetic Cancer Centre

## A Comprehensive Blood Test for Cancer Diagnosis & Personalised Treatment

A small blood sample can be analysed to detect cancer long before the tumour is large enough to cause symptoms or be seen on radiological examination. The cancer cells in the blood sample can be isolated and exposed to a wide range of chemotherapy medications as well as natural substances to determine specific tumour-targeted treatments.

#### Cancer Diagnosis

Circulating tumour cells (CTCs) are cancer cells that have escaped into the blood from a malignant growth. These cells can be detected when the tumour is as small as 1mm in diameter. Most tumours can only be detected by traditional methods, such as radiological scans, when they are at least 5-10 mm in diameter. This size increase represents many millions more cells and significant tumour progression. When used as a regular screening test, tumours can be diagnosed at a very early stage, which can improve treatment outcomes.

### Defining Treatment

In the laboratory, CTCs isolated from a 25ml blood sample, undergo detailed analysis to define their specific genetic profile and molecular expression including a comprehensive array of tumour markers. This can predict the growth & metastatic potential of these cells and how they are likely to respond to different treatment protocols.

RGCC's testing takes the process one important step further. The cancer cells are placed in a growth medium where they multiply rapidly. Small samples of these cancer stem cells are then placed into micro wells where their survival and growth can be separately tested against both standard chemotherapy agents as well as herbal & nutritional therapies. Cell growth is monitored daily and within a few days the samples are analysed to see which treatments the cancer cells are sensitive or resistant to. This is very similar to the way bacteria are cultured then tested for antibiotic sensitivity and resistance in hospital microbiology laboratories.

## A Comprehensive Report

RGCC's comprehensive laboratory report can be used by the clinician and patient together to design a treatment protocol, using chemotherapeutic agents, natural substances or a combination of both, that specifically targets the cancer cells and fits the needs of the patient. Regular CTC counts can be used to monitor disease progress so that treatments can be adjusted appropriately.

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