



# MEDICINE 2040

Rewriting the future of healthcare

## A NEXT GENERATION PLATFORM FOR DETERMINING EFFECTIVE TREATMENT IN PERSONALIZED CANCER MEDICINE

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Current cancer personalized medicine utilizes genomic analysis to help determine optimal treatment. However, there are no known genomic predictive biomarkers for most of the commonly used cytotoxic drugs. In addition, recent studies have shown that most patients using genomic profiling do not show better survival when compared with patients using standard drug selection. In many instances, genomic mutations suggest several treatment protocols and it remains challenging to determine the most efficacious option. To advance cancer precision therapy decisions, we have developed cResponse, a drug sensitivity platform to determine individualized patient treatment regimens. cResponse is a 3D ex-vivo culture system capable of maintaining tumor slices, including cancer cells and its microenvironment at a high viability for up to 2 weeks. Preserving the tissue ex-vivo for a biweekly period allows for initial genomic sequencing which is then used for functional assay drug selection. The combination of rapid genomic analysis and a high integrity 3D tissue functional platform provides a holistic combination for optimized therapeutic selection. Currently we are conducting clinical trials in neo-adjuvant bladder cancer, metastatic breast cancer and metastatic gastrointestinal cancer to demonstrate that cResponse can accurately predict patient response to treatment. Notably, preliminary data indicates a strong correlation between cResponse prediction and clinical response in patients enrolled in the neo-adjuvant bladder trial. In the future, the integration of this platform in the decision making process of oncologists may open new treatment options for cancer patients.