Carcinotech – Company FAQ List

1. What is 3D Bioprinting?

The method of printing biomedical structures with the use of viable cells, biological molecules, and biomaterials. In short, 3D bioprinting is the deposition of biological material in a layer-by-layer fashion to create 3D structures like tissues and organs.

2. What cancer models are you currently developing/developed?

We have developed patient-specific models for Brain, Lung, Breast, Colorectal and Ovarian cancers with characterised patient populations and mutational status. As well as the five cancers, Carcinotech can offer models of any solid tumours depending on your drug testing needs.

Our flexible technology allows us to develop models for any solid tumours. We continuously develop new cancer models including rare cancers.

3. What is robotic automated manufacturing?

We have integrated automation into every step of our process. From cell culture, to bioprinting, to drug testing. This allows us to have more accurate, rapid, and consistent processes for manufacturing and testing.

4. How are you ethical?

At Carcinotech our technology offers defined animal-free conditions removing the requirement of animal testing for drug development. We work with humanised models, tackling head-on one of the biggest issues facing the pharmaceutical industry – the use of animal testing. With the passing of the FDA Modernization Act our models provide a more ethical alternative to current pre-clinical testing methods.

5. What is precision medicine testing?

Precision medicine is a healthcare approach that utilises molecular information, phenotypic and health data from patients to generate care insights to prevent and treat human disease resulting in improved health outcomes. In the oncology space, precision medicine uses specific information about a person's tumour to help make a diagnosis, plan treatment, find out how well treatments are working, or make a prognosis.

At Carcinotech our technology offers surgeons and oncologists the opportunity to test treatment options, drug responses and create treatment plans for each patient.

6. Can your models be shipped worldwide?

Yes, our models can be cryopreserved and shipped anywhere in the world. We have validated our models post-thaw to remain viable for drug testing.

7. How do you ensure quality/ assured results?

Our models are validated, and quality controlled to ensure consistency and to produce highly predictive assay-ready printed tumours. Furthermore, our use of robotic automated manufacturing ensures high-throughput and reliable results.

Each plate will be supplied with a certificate of analysis documenting the similarity between the original and bioprinted tumours.

8. What assays can be performed on your models?

Our models can be used for various assays mentioned below and we also offer these assays if you would like us to test your drug compounds.

 Tumour Invasion/Migration Cell-Cell Interaction Cell-ECM Interaction Hypoxia Assessment 	 Drug Pathway Identification DNA Damage +Cytotoxicity Immunotherapy Testing Viability & Apoptosis
ImmunohistochemistryImmunofluorescenceCytokine AnalysisCell Painting	RNA SequencingWhole Exome SequencingWhole Genome Sequencing

9. How soon after receiving your models can I perform drug testing?

Our 3D printed tumours are assay-ready for drug testing 7 days after printing.

For personalised medicine our rapid testing capabilities allow us to determine treatment plans within 21 days.

10. What is Carcinotech's ambition?

To be at the forefront of cancer drug testing and provide personalised medicine testing to each individual suffering from cancer to better their chance of treatment and survival.



11. How consistent are your 3D printed tumours?

Due to our unique automated processing, and our ISO9001 certified quality procedures, we produce a high level of consistency between each bioprinted tumour. We have achieved a coefficient of variation of less than 17%, ensuring robust and reliable data.

12. What makes your models unique?

Traditional organoid models can take up to 90 days to be assay-ready, are less reproducible, and are incompatible with high-throughput systems.

Carcinotech's 3D printed tumours solve this problem with rapid, consistent tumours in high-throughput formats. Each tumour is printed using our custom ECM which matches the original tumour environment. Our models encapsulate the heterogeneity of each patient's tumour including their immune cells.

13. How do you maintain data integrity and traceability?

We have an integrated quality management system, maintaining data integrity using standard operating procedures and audited processes.

All data is produced and stored digitally. We adhere to the ALCOA principles, our data is attributable, legible, contemporaneous, original, and accurate.

14. What services do you provide?

We are able to provide our 3D printed tumours in high-throughput formats shipped assayready to you. Alternatively, we can perform the drug testing in-house based on your requirements. We can also develop customised cancer models and bespoke assays based on your study.

We have access to a worldwide network of diverse patient samples.