Liver Cancer PDX Model

Patient-derived Xenografts (PDX) are advanced preclinical oncology models for drug development. It offers a far better alternative for preclinical drug evaluation as compared to the conventional cell line-derived xenograft model.

PDX stands for Patient-Derived Xenografts, where the tissue or cells from a patient (usually tumor tissues) are implanted into an animal. It is also known as Patient-Derived-Tumor-Xenografts (PDTX).

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Advantages of PDX

- By maintaining genotypic and phenotypic diversity of patient tumor tissues, PDX is capable of capturing a more faithful representation of the human tumor's characteristics.
- PDX preserves tumor stroma and tumor microenvironments.
- Compared with cancer cell lines, PDX offers a more faithful representation of the mechanisms of tumor genesis and development.
- Compared with cancer cell lines, PDX offers a better reflection of cancer patients' drug sensitivity and tolerance levels during drug screening.

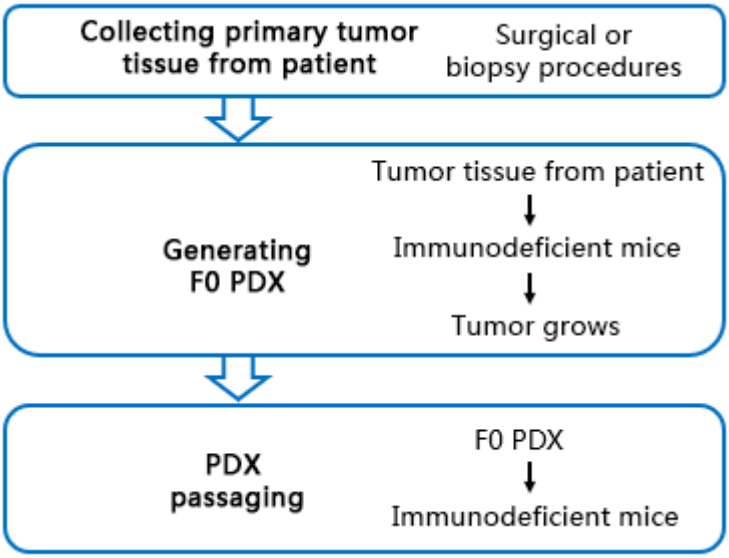
Applications of PDX

- Screening and biomarker development of anti-cancer drugs
- Co-clinical trials of anti-cancer drugs

- Precision medicine
- Study on tumor mechanisms

Having successfully established more than 60 types of liver cancer PDX models, Shanghai Model Organisms has identified their key characteristics through the analysis of genomics, histopathology, growth characteristics, drug responses to standard treatments, etc. Our research has demonstrated that PDX is capable of replicating the heterogeneity of patient tumors in various aspects, including their molecular, genetic and histological complexities. Our range of PDX models allows highly-efficient testing and analysis of drug efficacy in different clinical settings. PDX tumors collected from our PDX models can also be used in preclinical trials to facilitate drug development by mimicking Phase II patient tumor sizes.

Process of Establishing PDX



Our PDX service offerings include:

- PDX implantation to independently-developed immunodeficient NMG mice
- F0 PDX generation and passaging with mature subcutaneous and organ inoculation techniques
- Verification of PDX through pathological and molecular biological techniques

- Long-term cryopreservation of PDX through cell culture technology

Our liver cancer PDX resources

	F0 PDX	PDX passaging	Drug screening
PDX strains	54	26	7
Pathological verification	HE staining, cell morphology	HE staining, cell morphology AFP expression	

Diagram of drug screening results using liver cancer PDX

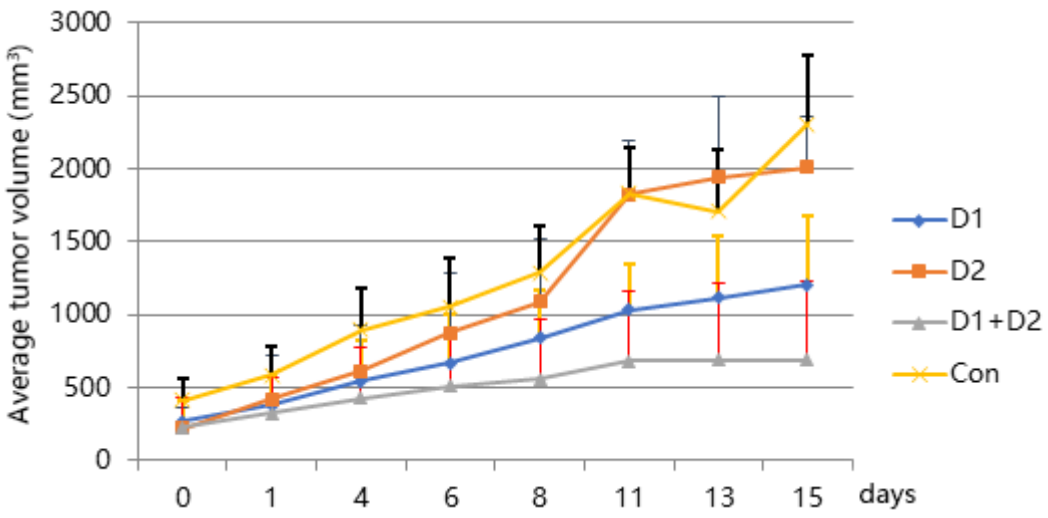


Fig 1. Tumor growth curves of liver cancer PDX models after treatment with different drug groups by Shanghai Model Organisms