


## Using **Rat models** for your preclinical drug development



With over 30 years of experience in oncology, we are known worldwide as leader in the development and use of rat cancer models to support the development of new therapies.



## IN VIVO PREDICTIVE PHARMACOLOGY IN RATS

The laboratory rat is one of the most commonly used experimental animals. It offers a number of advantages for modelling human diseases, developing new therapeutics agents, and in studying response to environmental agents. Remarkable progress in understanding cancer susceptibility, mechanisms and therapeutics has been made using rat models.

Rat cancer models better mimic the human pathology than mice. They are highly appropriate for anti-angiogenesis, vascular targeted drug evaluation as well as stromal component (fibroblasts, cell matrix...) targeted therapy or medical device.

### READOUTS

- Morphological characteristics
- PK/PD analysis
- Antitumor activity
- Imaging follow-up

Rat capacities encompass all the preclinical oncology needs such as:

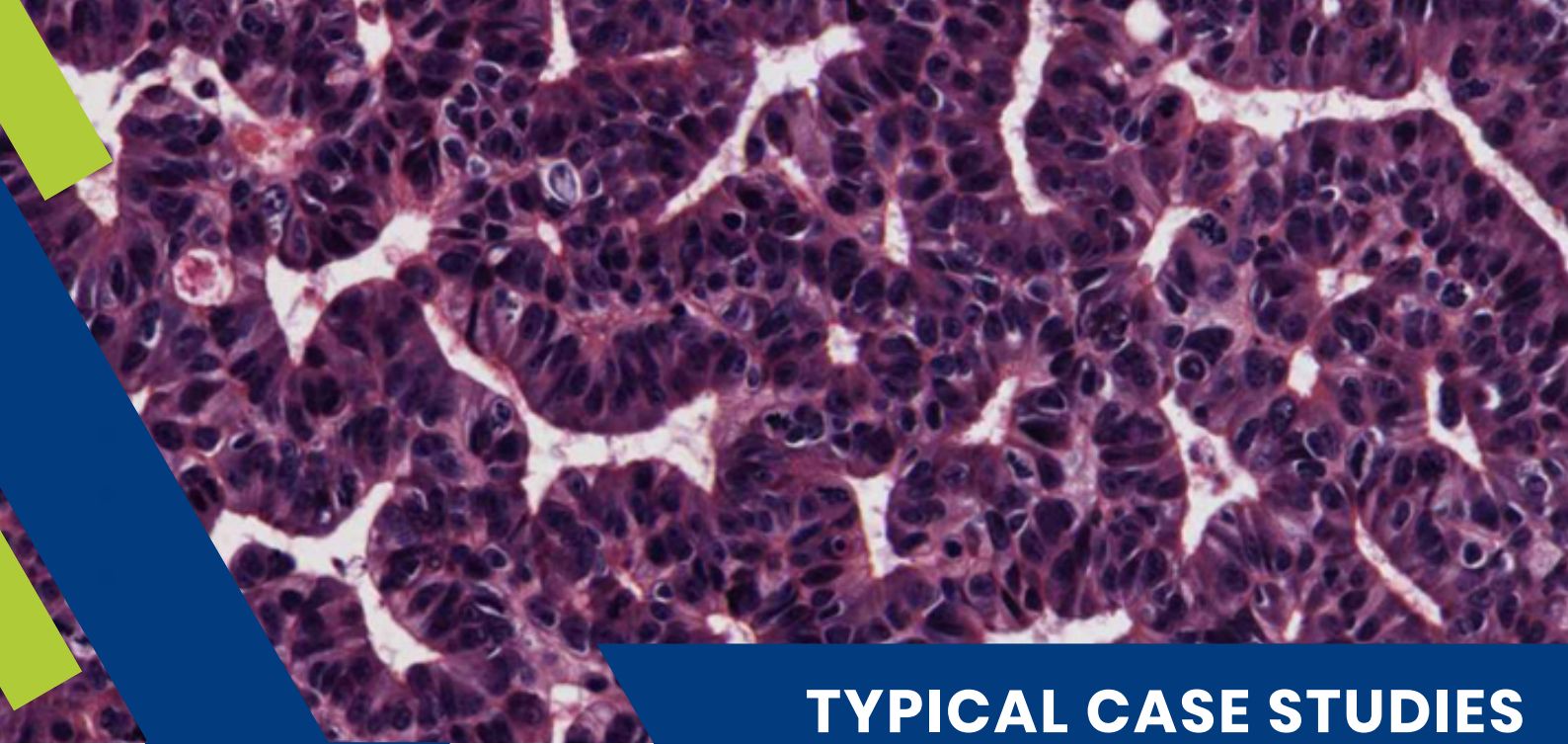
- Subcutaneous and Orthotopic implantations
- Spontaneous and experimental metastasis models
- Response to Standards of Care
- Drug combination and radiation therapy

## PANEL OF AVAILABLE MODELS WITH RATS

Oncodesign Services offers a range of discovery & preclinical services built upon rat cancer models of syngeneic, cell-derived xenograft (CDX) and patient-derived xenograft (PDX) tumors.

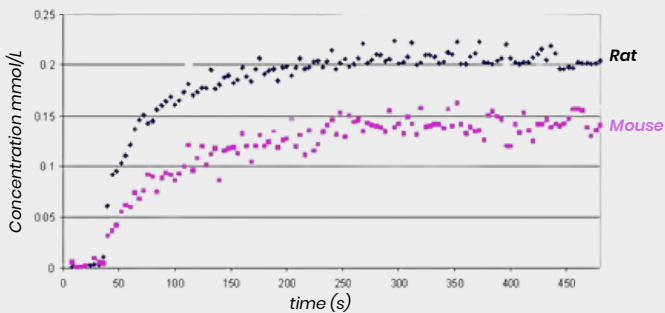
Our rat tumors are used for **in vivo modeling**, **in vitro screening** and for **target expression analysis**. The tumors are stored as viable frozen stocks for propagation and often in FFPE blocks for ex vivo analysis of the TME.





# TYPICAL CASE STUDIES USING RAT MODELS

## Tumor stromal component in Rat Models



DCE-MRI blood perfusion monitoring in rat and mouse models

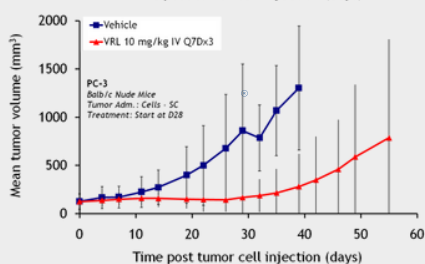
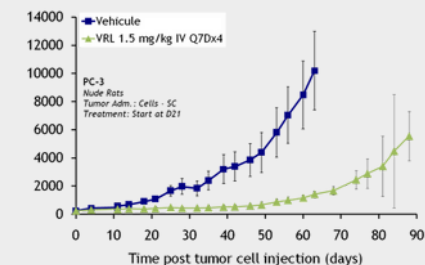
- The tumor stroma component is generally 1.5 to 2-fold higher in rat than in mouse models.
- Human tumors in rats have approximately 2-fold greater blood/plasma content and permeability than human tumors in mice.

This characteristic can contribute to better drug and tracer tumor uptake. Rat models are highly appropriate for anti-angiogenesis and vascular targeted drug evaluation.

## Pharmacological doses in Rat Models

Dose (Mg/kg/injection)
Mouse 10
Rat 1.5
Human 0.75 - 1.5*

\*transformed from mg/m<sup>2</sup>



- Pharmacological doses in rats are similar to human administered doses
- Pharmacological response to Vinorelbine of PC-3 bearing Nude Mice and Rats. MTD dose of Vinorelbine induces similar antitumor efficacy in both mouse and rat models, with dose in rats close to human administered.



Oncodesign Services is a Contract Research Organization (CRO) specializing in drug discovery and preclinical services.

From target identification to IND filing, the company contributes to the development of innovative therapies in oncology, inflammation and infectious diseases, where there is unmet medical needs for patients.

## CONTACT US

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