

# Orthotopic Modeling of Prostate Cancer in Mice

Preclinical mouse models of cancer remain a critical component of the evaluation of antitumor agents and the elucidation of molecular events associated with carcinogenesis. Orthotopic transplantation of tumor cells, compared with ectopic implantation, mimics the tumor microenvironment and allows accurate expression of the clinical features of human cancer in mice. This sample study describes an orthotopic prostate cancer model designed for the efficacy evaluation of antitumor agents.

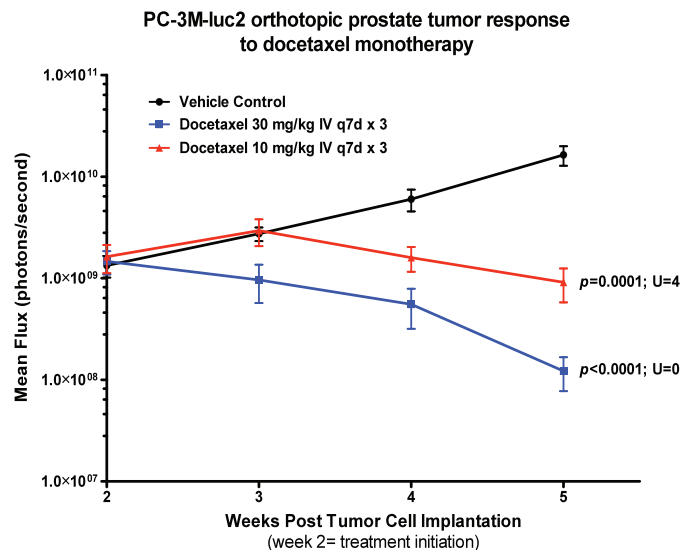
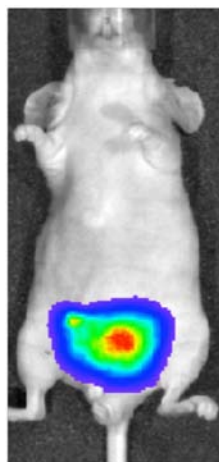
## Methods

- Male nude (NU/J, Stock Number 002019) mice implanted orthotopically with  $1 \times 10^6$  PC-3M-luc2 cells (Caliper LifeSciences).
- Two weeks later, 30 tumor bearing animals were size rank matched into three treatment groups with equal mean average number of photons emitted per second (N=10).
- Tumor growth was monitored weekly and body weights were monitored three times weekly until the study endpoint at Day 35 post tumor cell implantation when tumors were harvested and weighed.

Subgroup ID	Description	Dose	Schedule	Route	n
Group 1	PC-3M-luc2	Vehicle Control	q7d x 3	i.v.	10
Group 2	PC-3M-luc2	Docetaxel 30 mg/kg	q7d x 3	i.v.	10
Group 3	PC-3M-luc2	Docetaxel 10 mg/kg	q7d x 3	i.v.	10

## Efficacy Evaluation by Biophotonic Imaging

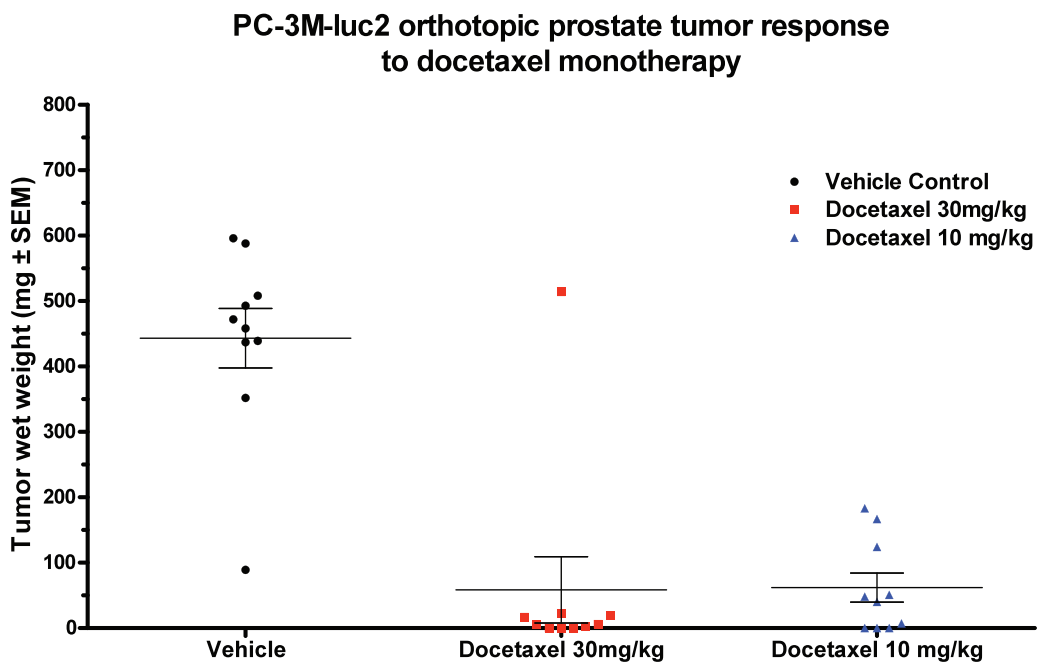
- Luciferase expression from orthotopically transplanted tumor
- Allows for real time *in vivo* monitoring of tumor response



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## Efficacy Evaluation by Tumor Wet Weight



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