



PC-3 human prostate cancer cell orthotopic xenograft

A MODEL FOR HUMAN PROSTATIC CARCINOMA ASSOCIATED WITH METASTASIS

Model

We developed an orthotopic xenograft preclinical model of prostate cancer based on the widely used PC-3 cells [human prostate cancer cell line].

In collaboration with Flash Therapeutics*, PC-3 cells were initially transduced with luciferase and a reporter fluorescent protein. This approach allows *in vivo* imaging of tumor growth and metastasis by luminescence (BLI) and fluorescence (FLI). We could also offer inducible genetic approaches to overexpress or silence any target gene.

Specie

Nude mouse

Interest

- Xenogenic models combine the advantage of working with human cancers with the relevance of an *in vivo* host.
- PC-3 cells are inoculated in the proper tumor microenvironment enabling metastases development.
- The murine dorsal lobe of the prostate is most similar to the peripheral zone of the human prostate that is more prone to cancer development (75%).
- BLI enables real-time, non-invasive monitoring of tumor growth and test item response over time.
- FLI allows metastasis visualization and quantification.
- This model is validated with the clinically relevant compound Docetaxel.
- Test compound treatment or gene activation/silencing can be initiated in a desired schedule (before or after tumor establishment).

Model Description

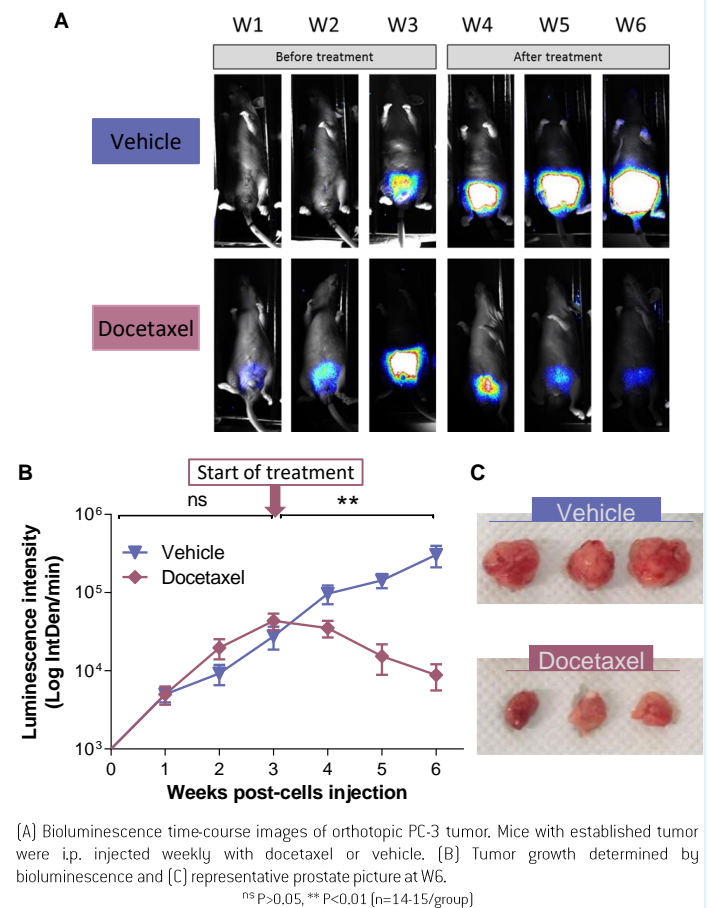
- Human cancer cells are injected directly into the dorsal prostate of Nude mice.
- Mice are imaged by luminescence once or twice weekly.
- Endpoint fluorescence are performed at week 6.
- Test compounds can be administered *via* various routes (i.v., i.p., s.c., p.o.) in preventive or curative treatment.

Parameters evaluated

- Tumor growth: bioluminescence intensity – Arbitrary Unit (AU)
- Metastasis: localisation, incidence (%), scoring and fluorescence intensity (AU)
- Tested item efficacy: tumor growth / metastasis delay or inhibition
- Tumor can be resected for histological, molecular or biomarkers analysis

* Flash Therapeutics (formerly Vectalys) is a new gene therapy company developing gene and cell-based therapies by leveraging its proprietary lentiviral platform and bioproduction technologies.

Docetaxel inhibits prostate tumor growth



Docetaxel reduces metastasis

