

Human Xenograft Models

Introduction

Mouse models of cancer have consistently been used to determine the in vivo activity of new anti-cancer therapeutics prior to clinical development and testing in humans.

The most common models are xenografts of human tumors and cell lines grown subcutaneously in immunodeficient mice such as athymic (nude) or severe combined immune deficient (SCID) mice. These mouse strains exhibit very high take rates for xenografts, making them ideal hosts for in vivo propagation of human tumor cells.

Xenograft tumors are usually established via subcutaneous inoculation of a predetermined number of tumor cells into the flank of nude mice. Xenograft models are commonly used to determine ideal drug dosing, treatment schedules, and routes of drug administration that maximize anti-tumor efficacy and therapeutic window. The following are a few examples of cancer xenograft models performed by Noble Life Sciences.

Xenograft Protocol

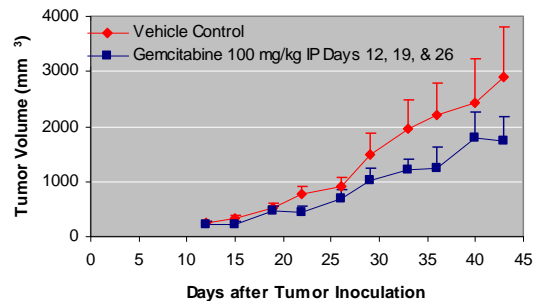
Human cancer cells were injected subcutaneously into the right flank of 8 week old female NU NU nude mice (CrI:NU-Foxn1nu):

- ASPC-1 human pancreatic cancer cells
- HCT-116 human colon cancer cells
- A549 lung cancer cells
- SKOV-3 ovarian cancer cells

Tumor size measurements were initiated 8 days post inoculation and monitored three times per week.

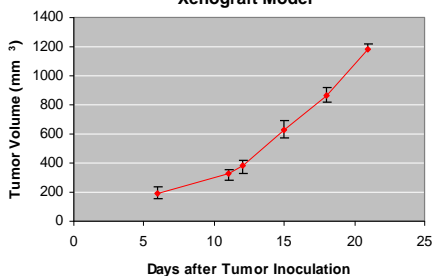
Tumor measurements were evaluated using calipers; tumor size was calculated using the following formula: $MIN(L:W)^2 \times MAX(L:W) / 2$. Data are plotted as mean tumor volume +/- standard error of the mean.

Antitumor Activity of Gemcitabine in the ASPC-1 Human Pancreatic Cancer Xenograft Model

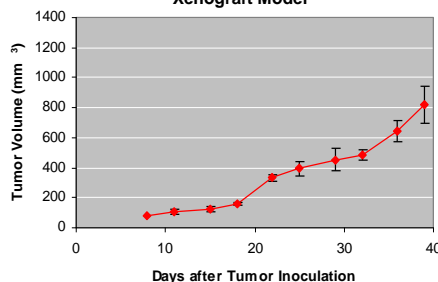


Treatment	Tumor Volume (mm ³) on Day 36	T/C Value (%) on Day 36	P value
Vehicle	1,599		
Gemcitabine	1,171	73	0.019

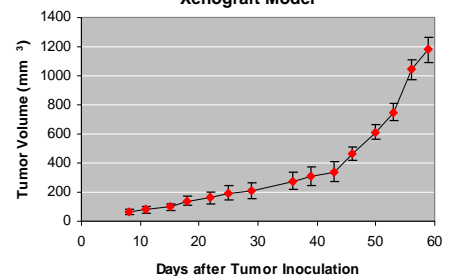
Subcutaneous HCT-116 Human Colon Cancer Xenograft Model



Subcutaneous A549 Human Lung Cancer Xenograft Model



Subcutaneous SKOV-3 Human Ovarian Cancer Xenograft Model



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