DATASHEET

Renca Metastatic Kidney Cancer

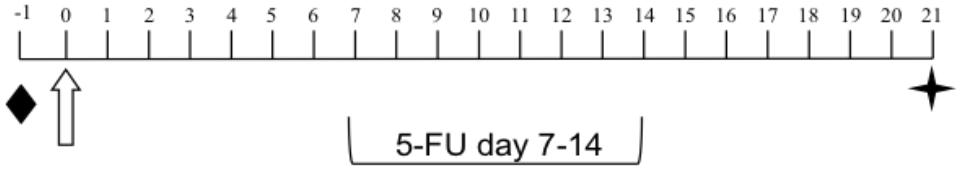
Renal (kidney) cancer is in the top 10 most prevalent cancers for both men and women in the United States. Novel immunotherapeutic approaches have demonstrated efficacy in human renal cell carcinoma (RCC), demonstrating an exciting area of therapeutic potential for this cancer.

Renca kidney cancer is a syngeneic, mouse model of metastatic renal cell carcinoma (RCC) in BALB/c mice. Renca cells can be injected subcutaneously or orthotopically. In the orthotopic model, cells are introduced directly into the kidney, wherein they form tumors that metastasize to secondary organs such as the lungs. The kidney containing the primary tumor is harvested and weighed upon experiment termination to determine tumor burden. Pulmonary metastases are quantified by counting visible tumors on the surface of the lungs after staining to differentiate tumor from healthy tissue.

Experimental Overview

Animal Strain:	Balb/c mice
Study Duration:	21 days
Controls:	5-FU
Standard Assessments:	Tumor Volume (SC only)
	Tumor Weight
	Lung Metastases
Add-on Assessments:	Flow cytometery
	Histology
	Biomarkers-Cytokines

Experimental Schematic

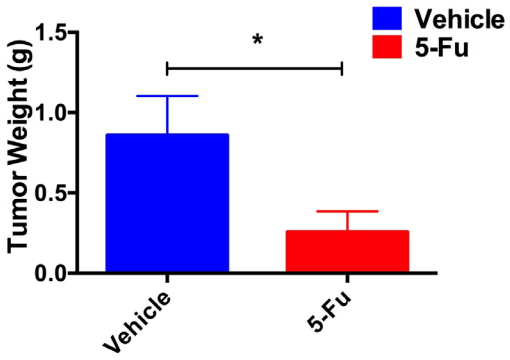


Days 0 Renca Cell/PBS:
IR implantation of tumor cells into left kidney

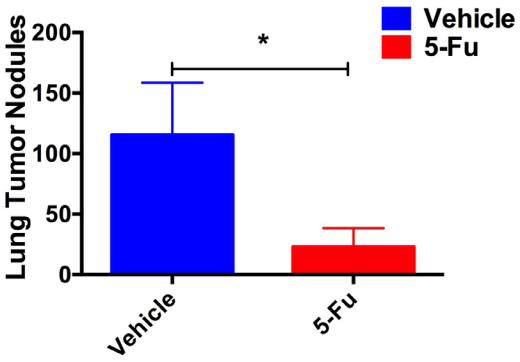
Body weight measurement

Days 21 Analysis
- Tumor, contralateral kidney, spleen and lungs harvested
- Weigh kidneys, lungs and spleen
- Inflate lungs for tumor nodule quantification

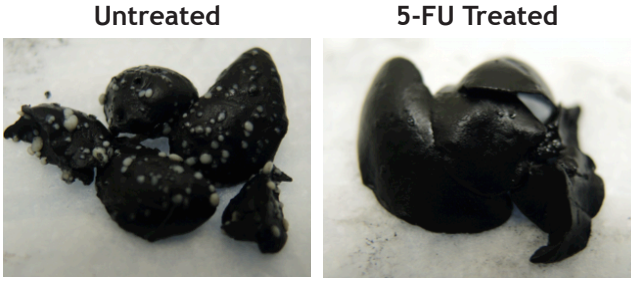
Data is representative of an orthotopic metastatic model of Renca metastaic kidney cancer. A subcutaneous model is also available.



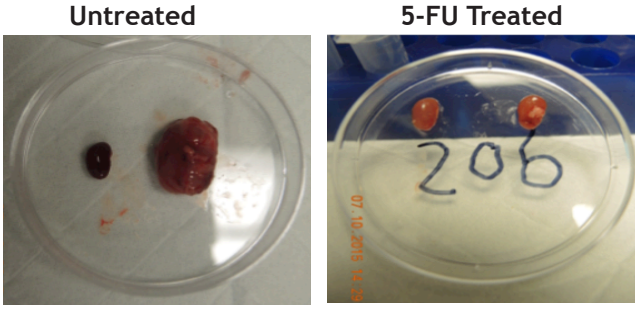
Tumor Weight. * represents p< 0.05 in comparison to vehicle.



Lung Metastases. * represents p< 0.05 in comparison to vehicle.



Lung Metastases - Day 21. Representitive images of lung metasatasis in untreated (left) and 5-FU-treated (right) mice.



Kidney tumor - Day 21. Representitive images of tumor-bearing kidney (right) and contralateral kidney (left) in untreated and 5-FU-treated (mice.

Validation Date: October, 2015

Our clients say...

"The performance of your team far exceeded our expectations. The study was performed well and we appreciate all your input into the study design. Your responsiveness and feedback during the study and following in the data interpretation was extremely helpful to guide our next steps. That's something we don't find with every CRO. " - S.G. , Toxicologist, Biotech Company

"Of all the CROs that I have used over the years...MD Biosciences has been one of the very best in terms of scientific knowledge, data quality, timelines, flexibility and personal contacts." - O.B., Director of Therapeutics, Pharmaceutical Company

"Throughout our relationship, you have been attentive to our needs and have completed exploratory pilot studies and three drug studies with professionalism and an under- standing of tight biotech timelines that are unmatched by other CROs." - D.Z., Director of Therapeutics, Biotech

Your needs....

We continually hear there has to be a better way. No matter what stage of your preclinical program you are in, we can think together about the best way to fulfill efficacy data. We place heavy emphasis on the scientific rationale for each study so that it not only meets the goals of the R&D program but also provides the most clinically relevant data. We feel that this will help reduce the failure rate in clincial stages and the burden upon the industry.

If you'd like to discuss a particular study or a research plan to work together long-term, we can be reached at info-us@mdbiosciences.com or by phone at 651.641.1770 (North America) or +41-44 986 2628 (International).