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TITLE: Enhancing Immune Checkpoint Inhibitor therapy in Kidney Cancer

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13. SUPPLEMENTARY NOTES

14. ABSTRACT

The purpose of this work is to develop strategies to enhance immune checkpoint inhibition in kidney cancer. The work is designed to test different strategies to induce or enhance the abscopal in a kidney cancer model by combining ablative techniques or TLR agonists with PD1 inhibitors.
Progress was stalled early on since the principal investigator has moved institutions from Johns Hopkins to UT Southwestern. The high probability of the move occurred around the time that the funds were made available to Johns Hopkins. Hence the PI did not hire respective personnel as described in the SOW and animal studies were not pursued.

15. SUBJECT TERMS
Kidney cancer, Immunotherapy, abscopal effect

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
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1. **INTRODUCTION:** *Narrative that briefly (one paragraph) describes the subject, purpose and scope of the research.*

   The purpose of this research is to test therapeutic strategies to make immune checkpoint inhibition more effective in an animal model of kidney cancer. Our plan is to combine focally ablative techniques such as radiation or cryotherapy with PD1 immune checkpoint inhibition and assess the abscopal effect, i.e. the growth of tumors at a distant, untreated site. Additionally, we will test the effect of TLR agonist administration in this model and look at combination with focally ablative techniques.

2. **KEYWORDS:** *kidney cancer, immunotherapy, PD1, TLR, abscopal, radiation, cryotherapy*

3. **ACCOMPLISHMENTS:**

The major goals for the first year were to

a) produce PD1 antibody from a H5 hybridoma (available from the Drake lab)
b) obtain IACUC/ACURO approval for the animal protocol
c) test the effect of radiation of radiation and cryotherapy +/- PD1 inhibition on the abscopal effect
d) analyze tissues for immune cell infiltrates

In the second half of 2015 the strong possibility emerged that I would be joining the kidney cancer program at UT Southwestern. Therefore, the PI held off on hiring additional staff and pursuing animal studies. However, we have acquired PD1 inhibitory antibodies which will be used for subsequent studies at UT Southwestern.

For the upcoming reporting period we will focus on the major goals of the first year as stated above. Thus we will study the effect of ablative therapies on distant tumors with and without concurrent PD1 inhibition.

At UT Southwestern I am a Co-leader at the Kidney Cancer Program and have access to lab space, animal facilities and a pathology core to conduct the studies as outlined in the original statement of work.

4. **IMPACT:**

   Nothing to report

5. **CHANGES/PROBLEMS:**

   As outlined above the progress with this project was primarily stalled by the PI changing institutions which led to a stop in hiring of key personnel and holding off on animal studies. The PI does not foresee problems or barriers with the conduct of these studies at UT Southwestern.

6. **PRODUCTS:**

Nothing to report

7. **PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS:**

Dr, Hammers, PI, has spent a 15% effort on this project, overseeing antibody production and isolation.

Ms. Huong Nguyen, technician, spent 4 person months on this project. She was involved in cell culture, supernatant collection and antibody isolation.

8. **SPECIAL REPORTING REQUIREMENTS:**

None