# RESEARCH PROGRESS REPORT SUMMARY

**Grant 02655-E:** 2019 Clinician-Scientist Fellowship - University of Minnesota

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| **Principal Investigator:** | Jaime Modiano, VMD, PhD |
| **Research Institution:** | University of Minnesota |
| **Grant Amount:** | $12,000 |
| **Start Date:** 1/1/2019 | **End Date:** 7/31/2021 |
| **Progress Report:** | Mid-Year 2 |
| **Report Due:** 7/31/2020 | **Report Received:** 7/31/2020 |

*(The content of this report is not confidential and may be used in communications with your organization.)*

**Publications:** None at this time.

**Presentations:**

Wood, C. "Characterizing canine lymphocyte subsets to identify tumor infiltrating cells." University of Minnesota, Veterinary Clinical Sciences Grand Rounds. March 21, 2019

Wood, C. "Wnt and the Immune System in Canine Osteosarcoma." Invited Research Seminar, Cornell University. April 3, 2019

Wood, C. "Wnt and the Immune System in Canine Osteosarcoma." Invited Research Seminar, University of Wisconsin – Madison. November 26, 2019

**Report to Grant Sponsor from Investigator:**

We initially set out to determine the proportions of different types of T-lymphocytes, a cell of the immune system that plays a role in killing diseased cells (whether those are infected or cancerous), that are present in the blood of healthy dogs. We identified a process that worked reliably. This evaluation revealed that memory cells, a type of T-lymphocytes that are key to the body's ability to kill cancer cells, are not present in sufficiently high numbers in blood from normal healthy dogs to be able to study them without additional experimental manipulation.

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To collect more of these memory T-cells, we stimulated blood cells in a culture dish. This process increased the numbers of memory T-cells, so that we could collect them for further analysis.

We collected the cells and we authenticated osteosarcoma cell lines needed to complete the remaining experiments, however, the COVID-19 pandemic and the associated shutdown of labs at the University precluded further progress on our bench experiments. We obtained approval from AKC CHF to extend the project so we can generate the different types of lymphocyte cells to establish an immune pattern specific to each type of lymphocyte, to establish immune pattern for dog bone cancer cells in a culture; and to compare these patterns to similar data from bone cancer tumors so that we learn more about the immune cells present in dog bone cancers. This will help us better understand the immune system in these tumors, so we can use it to fight bone cancers.

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