



RESEARCH PROGRESS REPORT SUMMARY

Grant 02472-A: Effect of Lokivetmab on Tissue Biomarkers of Canine Atopic Dermatitis using RNA Sequencing

Principal Investigator: Frane Banovic, DVM, PhD
Research Institution: University of Georgia
Grant Amount: \$9,747.00
Start Date: 12/1/2017 **End Date:** 10/31/2019
Progress Report: Mid-Year 2
Report Due: 4/30/2019 **Report Received:** 6/27/2019

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Original Project Description:

Atopic dermatitis (AD) is the most common, chronic, inflammatory and pruritic allergic skin disease that affects dogs worldwide. Treatment of canine AD has a high unmet need for effective and safe therapeutics. The transcriptome investigation of human AD tissues before and after treatment modalities has revolutionized the understanding of the molecular fingerprint of AD, further defining pathogenic immune pathways and identifying disease-specific biomarkers. In the early-phase trial, lokivetmab, a caninized monoclonal antibody targeting interleukin-31 (IL-31) cytokine, markedly improved disease activity, but the effect of IL-31 blockade on AD at the genomic level has not been characterized. The investigators will evaluate lokivetmab modulation of the canine AD transcriptome (defined as differentially expressed genes between lesional and non-lesional skin) using next-generation RNA sequencing (RNA-seq). Findings may suggest that inhibition of a single target has the potential to reverse AD pathomechanisms, opening the door for new targeted treatment for this common and debilitating inflammatory skin disease. Furthermore, transcriptome analysis using RNA-seq may identify novel pathogenic pathways of inflammatory biomarkers as canine AD disease drivers, with potential for development of novel targeted therapeutics.

Publications: None at this time.

Presentations: None at this time.

Report to Grant Sponsor from Investigator:

We have collected all the data, including RNA sequencing, and are now analyzing and writing the study results for the reports. A 6-month extension on the project will provide time to complete analysis, determine gene expression, and present results at a national meeting.