Public Abstract

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Lyme disease is caused by the bacterial spirochete Borrelia burgdorferi. There are approximately 300,000 new cases of Lyme Disease reported in the United States each year. Individuals with Lyme disease often suffer from chronic, painful arthritis. Our research uses a mouse model to better understand the immune response to this bacteria. Using an innovative technique, we were able to characterize the cellular immune response with the ankle joints of B. burgdorferi-infected mice. We found unique anti-inflammatory cells within the ankle joints which may provide potential targets for therapeutics in the future. In addition, we identified a detrimental role for T cells during infection in the absence of TLR-2. All studies presented herein provide a foundation on which future studies will be built from in the hopes of providing better treatment for Lyme Disease patients in the future.