



DISCOVERY

Pioneering discovery to cure lupus



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LRI Research Discovering How Your Gut is Linked to Lupus and Autoimmune Disease

A recent [article](#) in the *New York Times* highlighted the latest research on the role of the microbiome as a gateway to our immune system during disease and how its study may hold the clues to why our immune system malfunctions in autoimmune diseases like lupus.

As research has demonstrated, many places in the body contain very large numbers of bacteria which live in harmony with the individual in a state called symbiosis; in symbiosis, the bacteria and host coexist, each deriving some kind of benefit. These bacteria are called the microbiome, with those in the intestine representing the largest number.

Studying the microbiome to reveal more about the cause of autoimmune disease isn't new to Lupus Research Institute (LRI)-funded researchers. Novel Research Grants from the LRI have allowed scientists to explore how the microbes in our bodies impact our immune system and possibly contribute to lupus. Listed below are a few examples of current cutting-edge studies funded by LRI:

- Dr. Michele Kosiewicz, of University of Louisville is exploring whether the gut may explain why more women than men are affected by lupus and, if so, whether this insight can inform new therapies. Dr. Kosiewicz believes that gender, by way of sex hormones, affects the type of lupus-prone bacteria in the gut.
- Dr. Gregg Silverman from the NYU School of Medicine is researching whether bacteria in the gut influences the development and progression of lupus. He discovered that healthy people's guts have a greater diversity of bacteria than lupus patients. He also discovered that lupus patients have an imbalance of 'good' and 'bad' bacteria. Dr. Silverman believes that these variations are associated with disease and is currently researching the effects of specific bacteria that directly stimulate the gastrointestinal tract's immune system to induce autoimmunity.
- Manipulating gut bacteria may also prevent the dangerous clotting disorder antiphospholipid syndrome (APS) that affects some individuals with lupus. APS occurs when the immune system mistakenly attacks healthy clotting proteins found in the blood, resulting in blood clots. Dr. Martin Kriegel at Yale University School of Medicine is exploring the link between the gut biome and APS.
- **To scientists, submit your proposal by July 1 for the LRI's Novel Research Grant and contribute the next breakthrough in lupus!**

- **To people with lupus, support researchers nationwide who are devoting their brilliant talent to discover what causes lupus and help us progress to a cure!**



About the Lupus Research Institute

The world's leading private supporter of innovative research in lupus, the LRI champions scientific risk-taking in the hunt for solutions to this complex and dangerous autoimmune disease.

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