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## LRI-funded Scientist Finds New Paths to Limit Lupus Progression and Damage

*Exhausting the Immune System Points the Way to Better Long-Term Outcomes and Treatments for Lupus Patients*

Groundbreaking research from one of the [Lupus Research Institute's \(LRI\)](#) Distinguished Innovator Award winners shows that artificially exhausting certain immune cells so they are too tired to fight could help lessen disease progression and damage from the autoimmune attack.

Dr. Kenneth Smith, Cambridge University, was awarded one of the first LRI Distinguished Innovator Awards in 2013 to investigate whether gene activity patterns in specific immune cells – CD8 T cells – could predict long-term lupus prognosis and allow for safer and more effective personalized treatment. Dr. Smith and the Cambridge research team have rapidly delivered the outstanding results just published in the prestigious professional journal [Nature](#).



### Novel Discovery Brings Personalized Lupus Treatment Much Closer

Dr. Smith and co-investigator Dr. Eoin McKinney uncovered that the more tired the CD8 T cells become, the less energy they have to attack the body. The exhausted T cell immune response, known to increase poor outcomes in certain viral infections, is now shown to produce just the opposite effect in inflammatory autoimmune disease, namely less severe disease progression with fewer relapses.

Building on this breakthrough, Drs. Smith and McKinney will now pursue ways to **predict the course of the disease and to direct treatment choices accordingly. The goal is to minimize medication side effects, lessen organ damage and slow down lupus progression.**

***"We believe the clinical implications of this study could be profound. A test based on the concept is soon to enter the clinic, and we are exploring new treatments for autoimmunity based on manipulating T cell exhaustion," said Dr. Kenneth Smith.***

"The Lupus Research Institute is very proud to have provided Dr. Smith with the opportunity to conduct this truly innovative work that is moving quickly toward a practical clinical test that opens new approaches for personalized medicine and novel, targeted therapies," LRI President and CEO Margaret Dowd commented.

“This major breakthrough advances LRI’s 2020 goal to suppress disease activity and prevent progressive organ damage while pursuing prevention and a cure,” Dowd continued. “We are gratified that LRI’s novel research strategy is once again confirmed, demonstrating the power of scientific innovation to drive discovery and deliver solid results in this complex autoimmune disease.”

Dr. Smith will present the findings to hundreds of top lupus experts at our 2015 Forum for Discovery in October. The theme of this year’s Scientific Conference will be “Precision Medicine”.

[Learn more](#) about Dr. Smith’s discovery and its implications for lupus treatment.

### **About LRI’s Distinguished Innovator Award**

The LRI Distinguished Innovator Award was created to address the current lack of treatments in development that could arrest or reverse the disease. The first privately funded awards of this scale in lupus challenge the international scientific community to pursue highly promising new ideas on the fundamental causes of lupus that can lead to a cure.



#### **About the Lupus Research Institute**

The Lupus Research Institute (LRI), the world’s leading private supporter of novel research in lupus, pioneers discovery and champions scientific creativity as it has successfully demonstrated the power of innovation to propel scientific solutions in this complex autoimmune disease.

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