

LUPUS RESEARCH ALLIANCE

FORMERLY



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Discovery of Immune System 'Off Switch' Speeds Hunt for Lupus Therapies

Scientists at UMass Medical School have discovered a new piece of the complex jigsaw that makes up our immune system – one that ensures the immune response stays switched off in the absence of germs.

The study – reported in the leading scientific journal *Cell* and supported by the Lupus Research Institute* – could help researchers find new ways to treat lupus and other autoimmune diseases.

Katherine A. Fitzgerald, PhD, Professor of Medicine, looked at the role of a type of RNA molecule in lupus, called lincRNA. Although RNA molecules are essential in all forms of life, most lincRNA are thought to lack function. Dr. Fitzgerald, however, found otherwise. She focused her novel exploration on one of these RNAs called lincRNA-EPS, and found that its levels change when the immune system goes into action to fight off germs.

Her study exposed two groups of mice – one with and one without this lincRNA – to the same germs, and found very different reactions. She discovered that groups lacking lincRNA-EPS produced massive amounts of inflammation. Dr. Fitzgerald notes, “The results show that this lincRNA switches off the body’s inflammation response unless germs that need fighting are present.”



“By discovering what lincRNAs do, our study reveals a whole new layer of regulation that

we didn't know existed in the immune system. We hope these molecules can be harnessed to develop new therapies for autoimmune diseases,” she explains.

Read more about Dr. Fitzgerald's findings and what they mean for people with lupus in the press release from UMass Medical School [here](#).

* The LRI has now merged with the Alliance for Lupus Research and the S.L.E. Lupus Foundation to form the [Lupus Research Alliance](#).

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