

# discovery UPDATE

A Publication of the Lupus Research Institute

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## LRI: Changing the Course of Lupus Research

For so long, so little progress had been made in lupus. But in the six years that the Lupus Research Institute (LRI) has been in existence and spearheading novel research, so much has been learned—about why the body's immune system turns on itself, how the damage occurs, and avenues to pursue for better treatments and a cure.

From its inception, the LRI set out to fund innovative scientists with bold, imaginative—even unconventional—ideas about this complex autoimmune disease.

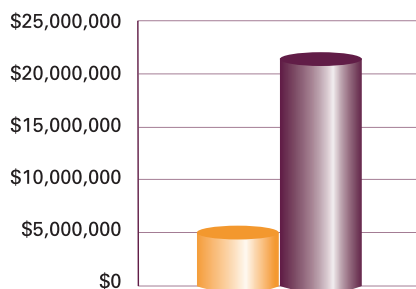
The LRI strategy, shaped by top scientists, is working, delivering solid breakthroughs and real results for people with lupus. A recent professional assessment of the science that the LRI funded with its first two rounds of 3-year grants (begun in 2001 and 2002) documents key discoveries in understanding the autoimmune response, genetics, and brain, heart, and kidney disease in lupus.

More than 65 percent of the scientists have taken their new ideas on to expanded funding, winning millions in large-scale grants at the National Institutes of Health (NIH) and from other sources.

Of the 23 projects assessed, 7 show early promise for translation into direct care of people with lupus. These include two new drug thera-

### Scientists Achieve Stellar Results

Turn \$6 Million in LRI Funding for Novel Research into More Than \$23 Million at the NIH



Sixty-five percent of investigators win large government grants, advancing discoveries in lupus.

pies (now in development) and five new tools for diagnosing lupus flares and complications (now being tested in people).

The LRI scientists have published results in 46 papers in top scientific journals. If not for the LRI, they would have found it virtually

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### Two Discoveries in Lupus Genetics Reported Breakthroughs Build on Work First Funded by the LRI

Two new insights on how genes—those functional and physical units of heredity passed from parent to offspring—play a part in lupus were published in the June 2006 issue of the prestigious journal, *Science*.

The work of Silvia Bolland, Ph.D., offers new clues on what makes a person prone to lupus. Bolland is the lead author of the *Science* study that for the first time characterizes how having a gene called the 'Y-linked autoimmune accelerator' makes the body more susceptible to lupus.

"Bolland's findings show that one extra copy of the gene is enough to

"These papers provide important insight into genetic factors that can contribute to the development of lupus, and therefore, potential new therapeutic targets."

—Ann Marshak-Rothstein, Ph.D.  
Professor of Microbiology  
Boston University School of Medicine

predispose to severe autoimmunity—direct evidence that minor genetic mutations, small differences in expression, are important," explained Mark Shlomchik, M.D., Ph.D., professor of laboratory medicine and immunobiology

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## LRI: Changing Lupus Research

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impossible to secure early support—and their innovative ideas would very likely have languished and been lost. “Cutting edge research has been made possible by the LRI funding high-risk projects,” notes the University of Chicago’s Martin Weigert, M.D., Ph.D.

The LRI is generating results that matter to people with lupus—tangible hope for better treatments and a cure. “This is an A+ report card for LRI scientists and confirms that the Institute is on to a powerful strategy for cracking open the mystery of lupus,” said LRI President Margaret Dowd. “And these first two groups of grant recipients are just the beginning.”

## Lupus LA “Love, Light, and Laughter” Gala



More than \$500,000 was raised for LRI research at the star-studded May 11 gala at the Beverly Hills Hotel. The glamorous event was hosted by Jason Alexander of TV’s Seinfeld fame and featured a performance by Glenn Frey of the Eagles and Sharon Stone’s expert auctioneering of luxury items.

- 1) Sharon Stone
- 2) Bernie Brillstein, Rob Lowe, Lupus LA Vice President Carrie Brillstein
- 3) Lupus LA founder Daniel Wallace, M.D., and his wife, Janice

## Two Discoveries in Lupus Genetics

—Continued

at Yale University School of Medicine. The study also provides new understanding of why lupus runs in families.

Bolland’s finding, first supported by the LRI, subsequently won NIH funding.

The *Science* paper of University of Texas Southwestern Medical Center professor Edward K. Wakeland,

Ph.D., a 2001 LRI grant recipient, provides a new explanation for the immune system breakdown in lupus.

In mouse studies, the receptor gene, *Ly108*, contributes to a breakdown in control of B cells, causing them to go haywire and to produce auto-antibodies—leading to manifestations of lupus.

“With that early LRI funding we developed an antibody that was critical in helping lead study author Chandra Mohan, M.D., Ph.D., and the team determine the function of *Ly108*,” Wakeland said. “Moving forward, the antibodies will be a valuable tool for researchers.”



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