

FOR IMMEDIATE RELEASE

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La Jolla Institute receives research grant from The Michael J. Fox Foundation

Two-year award will advance understanding of the immune system's role in Parkinson's disease

LA JOLLA, CA—Dr. Alessandro Sette, a vaccine biologist at the La Jolla Institute for Allergy and Immunology, has been awarded a \$400,000 grant by The Michael J. Fox Foundation to identify biomarkers that gauge the immune system's contribution to Parkinson's disease in the hopes of developing reliable diagnostic tools as well as a roadmap for new types of drugs that can stop or slow disease progression.

"Parkinson's disease is notoriously difficult to diagnose during the early stages of the disease when available therapeutic interventions to slow neurodegeneration have shown the best results," says LJI Professor Sette, who heads the Center for Infectious Disease. "We hope that our research will lead to the development of a diagnostic tool based on molecular biomarkers that reliably track the progression of the disease before clinical symptoms manifest themselves."

Dr. Sette's collaborator, neuroscientist Dr. David Sulzer at Columbia University Medical School, recently showed that at least half of all Parkinson's patients show autoimmune responses to a fragment derived from a protein that has been implicated in the disease. This finding suggests that the immune responses activated in at least this subset of Parkinson's disease patients resemble those driving autoimmune diseases such as multiple sclerosis or type 1 diabetes.

"We contacted Dr. Sette's lab, who invented some of the approaches to detect antigens in patients, to see if the Parkinson's related protein might act as an antigen in patients, in an analogy to preproinsulin in type 1 diabetes," says Sulzer. "If our preliminary data are borne out, there will be extensive consequences for the diagnosis and treatment of this severe brain disorder." An antigen is any substance that induces an immune response in the body.

In collaboration with Professor Sulzer and clinical researchers at Columbia University's Center for Parkinson's Disease Division as well as Rush University and UC San Diego, the Sette lab will be analyzing the activity of T cells, a type of immune cell, in patients diagnosed with Parkinson's disease to generate a library of biomarkers that can be used to screen patients for disease-

related autoimmune responses and assess the effectiveness of therapies that target excessive inflammation, which accompanies and hastens the loss of irreplaceable neurons.

Parkinson's disease affects neurons in a region of the brain called the substantia nigra. For reasons that remain unknown, neurons in this region begin to degenerate over time. Since substantia nigra neurons modulate muscle movement, patients suffer progressive loss of motor coordination and develop tremors. Many of the affected neurons signal via the neurotransmitter dopamine; thus traditional therapy continues to rely on dopamine replacement therapy. This approach alleviates symptoms, but does not halt disease progression. Currently, there is no cure for PD.

About La Jolla Institute for Allergy and Immunology

The La Jolla Institute for Allergy and Immunology is dedicated to understanding the intricacies and power of the immune system so that we may apply that knowledge to promote human health and prevent a wide range of diseases. Since its founding in 1988 as an independent, nonprofit research organization, the Institute has made numerous advances leading toward its goal: *life without disease*.

About the Michael J. Fox Foundation

As the world's largest nonprofit funder of Parkinson's research, The Michael J. Fox Foundation is dedicated to accelerating a cure for Parkinson's disease and improved therapies for those living with the condition today. The Foundation pursues its goals through an aggressively funded, highly targeted research program coupled with active global engagement of scientists, Parkinson's patients, business leaders, clinical trial participants, donors and volunteers. In addition to funding more than \$600 million in research to date, the Foundation has fundamentally altered the trajectory of progress toward a cure. Operating at the hub of worldwide Parkinson's research, the Foundation forges groundbreaking collaborations with industry leaders, academic scientists and government research funders; increases the flow of participants into Parkinson's disease clinical trials with its online tool, Fox Trial Finder; promotes Parkinson's awareness through high-profile advocacy, events and outreach; and coordinates the grassroots involvement of thousands of Team Fox members around the world. For more information, visit us on the [Web](#), [Facebook](#), [Twitter](#), and [LinkedIn](#).