PolyBio Announces $15 Million in Long COVID Research Funding

Some new projects will study viral persistence, including one that will test the HIV meds Truvada and maraviroc.

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PolyBio Research Foundation, a leading organization in supporting research for long COVID and related chronic diseases, announced a new round of funding focused on identifying potential long COVID treatments on Thursday. The research projects, which received a total of $15 million in funding, plan to study the potential biological underpinnings of long COVID and begin testing promising therapies.

The new projects build upon prior research in PolyBio's long COVID Research Consortium, a collaborative effort to quickly advance long COVID science by sharing samples and data across different research groups. Scientists in the consortium take targeted samples from people with long COVID, including samples from body parts that aren't well-studied, and work together to identify how this disease messes with different organ systems — and which drugs may help.

A key theme for PolyBio's research is viral persistence, the hypothesis that SARS-CoV-2 may continue to replicate in the body for months or even years after infection, driving chronic symptoms. Findings from the consortium's first phase of research, such as a review paper published in Nature, have demonstrated that viral persistence is pervasive among people with long COVID and identified avenues for biomarkers and treatment options.

"Phase one looked at, 'Is persistence happening?' And phase two is looking more at, 'Why and how is persistence happening?" Dr. Amy Proal, president of PolyBio, told The Sick Times. For example, Akiko Iwasaki's group at Yale School of Medicine will use a mouse model to study how viral persistence impacts patients over time, Proal said.

PolyBio funded studies that will investigate viral persistence through tissue samples, as well as research connecting this process to the gut microbiome. Other research has demonstrated that the gut plays a role in long COVID; a clinical trial in Hong Kong showed that changing the microbiome led to alleviating symptoms, the researchers published in The Lancet Infectious Diseases late last year. Viral persistence in the gut may contribute to microbiome dysfunction, Proal said, and she suspects that similar imbalances could happen in other parts of the body

where bacteria live, such as the lungs.

The new phase of research also includes clinical trials. David Putrino and his colleagues at Mount Sinai will study how HIV antivirals Truvada [tenofovir disoproxil fumarate/emtricitabine] and maraviroc [Selzentry] may help people with long COVID. The trial will be small, with 40 patients, but each person will go through detailed testing to understand exactly what's happening in patients' bodies and identify the best measurements to prioritize in future, larger trials, Proal said.

Also at Mount Sinai, researchers will test the potential impact of lumbrokinase, an enzyme that may help address microclots, a common issue found in the blood of people with long COVID. The Mount Sinai team is already testing lumbrokinase for chronic Lyme disease and will expand to include people with ME/CFS as well as long COVID, according to a press release from the health system.

In addition to the new trials, PolyBio's funding will enable Michael Peluso and colleagues at the University of California San Francisco (UCSF) to add more detailed patient testing to an existing clinical trial of monoclonal antibodies for long COVID. The UCSF team has years of experience taking samples of gut tissue, lymph nodes, and bone marrow — areas not commonly tested — due to their prior experience with HIV research, Proal said.

"It's very encouraging to hear that some of the researchers working on these trials were at the forefront of the HIV/AIDS epidemic; the experience they bring to the table is invaluable at a time like this," said Junior White, a person with long COVID who has followed PolyBio's work and other long COVID research projects. This research will help prepare researchers to respond to future viruses that cause similar long-term diseases, White added.

Samples from patients at one lab may be shared across the consortium, so that scientists with expertise in different types of biological testing may contribute to the findings from each group. This process helps to speed up research, Proal said, as setting up clinical sampling procedures requires time and bureaucratic steps. "And also, you can get a lot of data on the same patient, which is huge," she said.

Along with research, PolyBio's funding includes support for educating doctors about long COVID and improving COVID-19 safety measures in clinics, in collaboration with the OSLUV Project. The Cohen Center for Recovery from Complex Chronic Illnesses at Mount Sinai, led by Putrino, will use this funding to install clean air technology, offer PCR testing, and provide high-quality masks to patients and staff.

"We want to set that precedent, that people should not have to go to a clinic for long COVID and think they're going to get COVID," Proal said. Putrino echoed the importance of protective measures in Mount Sinai's press release, saying, "People with post-acute infection syndromes have the right to access care in spaces where they feel safe and do not have to fear reinfection."

PolyBio's funding announcement aligns with growing demands from the long COVID community for clinical trials, including both developing novel treatments and repurposing drugs from other

diseases. “It’s a shame that the researchers who seem to really care about making a difference in this field have to rely on private funding, but I’m hopeful that these trials will lead us in the right direction,” White said.

Miles Griffis contributed reporting.

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