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FEATURED

Livermore Company Develops Technology for Rapid Coronavirus Tests

By Dawnmarie Fehr
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Husband and wife team, Sri Satyanarayana and Su Dwarakanath, created a new COVID-19 test. (Photo - Doug Jorgensen)

One local company, Kaya17 Inc., has developed a rapid COVID-19 test and aims to use its revolutionary technology to create tests for other disease markers as well.

Based in Livermore, Kaya17 created a new platform for diagnostic point of care testing, combining the accuracy of a traditional lab test and the speed of a rapid test.

“Typically, rapid tests aren’t as accurate, and they tend to have a lot of false positives and false negatives,” said Su Dwarakanath, founder and CEO. “This one is a blend of the two, where the accuracy is as good as you can get, and it’s rapid. Point-of-care testing does have some problems, but we did a lot of innovation to get this test to the same level of efficiency and accuracy as a lab test.”

Pleasanton resident Dwarakanath credits her success to the vertical flow filter method she developed and the lightweight portable reader designed by her co-founder and husband, Sri Satyanarayana. She said his engineering skills paired well with her background in research and diagnostics.

“He designed the reader and software, and I am in the lab, where I develop the test itself,” said Dwarakanath.

Currently, Kaya17’s 15-minute, saliva-based, antigen test for COVID-19 is CE Mark-approved. This certification of conformance with health, safety and environmental protection enables the company to sell its products within the European Economic Area as well as parts of Asia, Africa and the Middle East. They have applied for emergency use authorization from the U.S. Food and Drug Administration (FDA). Once approval is received, they will begin marketing their test in the United States.

“The FDA has been going pretty fast these days, because it’s an emergency, so we applied,” Dwarakanath said. “They asked for some clarification on some things; we gave them that, and we are hoping to hear back in the next two to three weeks.”

Kaya17 was founded in 2015 with the goal of shrinking lag time between testing, diagnosis and treatment to improve health care for patients everywhere. The company partnered with Day Break Labs in Livermore for incubation services and conducts its pilot manufacturing in Livermore as well.

Its new test product will serve a wide range of uses in a variety of industries from travel to education to manufacturing.

According to Dr. Allyson Tevrizian, Md., Dwarakanath's vertical flow technology is a game changer.

"Testing is still a very important part of the solution for COVID-19," Tevrizian said. "We hope this can still be put out there. The country is not vaccinated, and now we have these variants. So testing, and especially rapid testing, is going to be an important part of schools, medical clinics, workplace operation, and travel reopening."

Tevrizian works as an allergist in Pleasanton and has watched Dwarakanath develop her platform and its clinical usefulness. The vertical flow system enhances the test's sensitivity, solving the accuracy difficulties of the common rapid test. Kaya17's test kit fits in a briefcase, making it light and portable for quick set up at any site. A randomized, blinded clinical trial found the test's accuracy to be 98% sensitivity, with a 98% specificity. The test can even detect early stage and asymptomatic infections.

The diagnostic platform, which makes this test unique, can be adapted to perform other types of testing for infectious diseases, allergies and cancer markers, among others.

"The testing may calm down, but it won't go away," Dwarakanath said. "We are looking at COVID-19 today, but we are looking at a lot of tests coming up in the future, one which is Influenza RSV and COVID-19 together. People are getting sick, and they don't know if it's COVID, so if we have one test that can detect the flu and COVID-19, it would be very efficient. That is our next step. Then, we have a whole line of tests for cancer markers, women's health testing, and others, so we can use the platform and create others. The future is extremely bright for our platform."

For more information on Kaya17, visit [kaya17.com](https://www.kaya17.com).