

Achiko Announces Provisional Patent Filing for Novel Low-Cost Saliva COVID-19 Test Kit



2020-09-01

Achiko AG is pleased to announce progress with a non-intrusive and affordable novel Covid-19 test kit, codenamed "Gumnuts". With the assistance from Australian intellectual property firm FB Rice, developer Regenacellx.sl has filed a provisional patent over the technology. Achiko holds the exclusive commercialization rights in exchange for a royalty and technical advice.

[Achiko AG](#) has assembled a world-class internationally recognised team for the development and commercialisation of Gumnuts. The team is led by Dr Michael J. Edel (Chief Scientist) and Dr Thomas Pouplin, joined by Dr Jittaporn Wattanaseree and Dr Joalin Lim. Additionally, a larger science and commercialisation organisation that spans across [Spain](#), [Switzerland](#), [Thailand](#), [Singapore](#) and [Indonesia](#) supports the team.

The planned Gumnuts kit is assembled around DNA aptamers and gold nanoparticles, combined with a saliva sample, and is proceeding to clinical trials shortly.

"After a significant number of years, projects and papers on nanoparticle bio-conjugation, we are now engaging studies on nanoparticle-aptamer bioconjugates for detection and actuation. What appeals in aptamers to us is their chemical robustness. This eases their industrial production while facilitating their use, as they offer longer shelf-life, tolerance to environmental changes and more stable performance in different media", said Dr Victor Pentes, ICREA Research Professor, Institució Catalana de Recerca i Estudis Avançats, VHIR and ICN2, Barcelona.

The first of many diagnostics planned to use the technology, Gumnuts is designed to be affordable and convenient. It delivers results in minutes and the testing experience is comparable to brushing one's teeth. Sold alone or combined with Achiko's pandemic management platform Teman Sehat ("Health Buddy"), the Company believes that the technology play a crucial role in resolving the world's problem with the pandemic.

Gumnuts has several differentiators and advantages over PCR, RT-PCR, LAMP, antigen and antibody test kits, all of which are currently being used globally. Current testing approaches may be constrained by reagents (supply chain, shelf life, etc.) or the required equipment (PCR/RT-PCR machines, trained technicians, etc.). They are confined in practical use (e.g. time to results, invasiveness, etc.) and suffer from accuracy issues (e.g. antigen tests) or high cost due to their structure. In contrast, DNA aptamers are known to be comparatively stable and may have a shelf life of more than a year at room temperature. The prospective materials required by Gumnuts may cost less than USD 1.00, dropping to only be a few cents when mass-produced. This opens up a realm of possibility for embedding testing in day-to-day applications beyond the approaches known to date.

"The Covid-19 pandemic has had an enormous impact around the world. To respond effectively, a precise and fast diagnosis is needed. The current testing technologies around PCR, antigen, and antibody test have problems such as the high cost of PCR tests and the time it takes to deliver results. Antibody tests miss the infection cycle and there are design weaknesses and reliability problems with antigen testing," said Dr Abdullah Qayyum, Epidemiologist, Riau Hospital Supervisory Agency, [Indonesia](#). "Low cost and effective testing are key elements in responding to the pandemic. Research in alternative methods is needed now. We are excited to be involved in this project doing research and testing."

Clinical trials are set to begin shortly. If the trials prove successful, large-scale production of the test kit will begin with a view to commercial availability before the end of 2020. Currently, the Company is selecting manufacturers as well as distribution partners. It is also continuing development at a wider range of assay approaches for Covid-19.

"Our novel test kit is a comprehensive offering for government and industry, seeking solutions to manage their economies, sporting events, travel, education, etc. We're excited about and encouraged by the progress with vaccines. However, the Company believes that testing will be an issue for many years to come," says Steven Goh, CEO and Director of Achiko. "Along with Teman Sehat, our suite of solutions may allow governments and businesses to move to a broader proactive testing approach covering nearly the entire population."

Beyond the initial application of DNA aptamers to the Covid-19 pandemic and an array of assay formats (electronic, lateral, etc.), the Company is looking towards diagnostics for

dengue, tuberculosis, cancer biomarkers and numerous other pathogens and believes that in combination with Teman Sehat, the technology may form the foundation of a diagnostics-as-a-service and telehealth business.

Read the [original article](#) on Accesswire.