Aptamer-based diagnostic platform granted US Patent

Friday 23 April, 2021

The first use of aptamers to detect viruses and other pathogens.

The platform provides a basis for an accurate COVID-19 test.

Montreal (QC), April 22, 2021 – Two-Photon Research announces the grant of a patent “Pathogen Detection Using Aptamer Molecular Beacons Using a Mobile Device” by the US Patent and Trademark Office (patent no. US 10,927,404 B1). The patent was awarded within sixty days of the application.

The invention is based on the field of aptamers, short molecules complementary to the protein and other molecular sequences, that are well suited for finding and binding to target sequences with very high specificity and affinity.

The Aptamer Molecular Photonic Beacon™ (AMPB) starts emitting photons once it binds to the target molecular sequence and is stimulated by the smartphone’s flash. To be distinguished from the flashlight, the AMPBs emit light at a different wavelength. The smartphone’s camera sensors are used to detect the presence of viruses and other pathogens.

The first embodiment of the patent is the CAST COVID-19 Test. CAST provides accurate results from a saliva sample in seconds.

“This diagnostic platform has the potential to change the way we test for viruses and other pathogens,” says Najeeb Khalid, the company’s CEO and one of the co-inventors. “By simply changing the aptamer, tests for HIV, Zika, Influenza, Lyme and Legionnaire’s disease, along with tests for future coronavirus and its mutations, will be realized.”

For more information visit www.twophotonresearch.com/news/cast

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