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Singapore: Simplifying the long testing procedures for HIV, researchers from the Biomedical Engineering department at the Columbia Engineering, have developed a smart phone accessory that can detect three infectious disease markers from a finger prick of blood in just 15 minutes.

The team said that HIV, treponemal-specific antibody for syphilis, and non-treponemal antibody for active syphilis infection can be detected through an enzyme-linked immunosorbent assay (ELISA) which the smart phone performs.

Mr Samuel K Sia, associate professor of biomedical engineering at Columbia Engineering, said, "Full laboratory-quality immunoassay can be run on a smartphone accessory and coupling microfluidics with recent advances in consumer electronics can make certain lab-based diagnostics accessible to almost any population with access to smartphones. This kind of capability can transform how health care services are delivered around the world."

Mr Sia further added that the procedure was cost effective as it costs only 34 dollars to manufacture the accessory, while the actual ELISA test costs 18,450 dollars. The research is published in the journal, Science Translational Medicine.