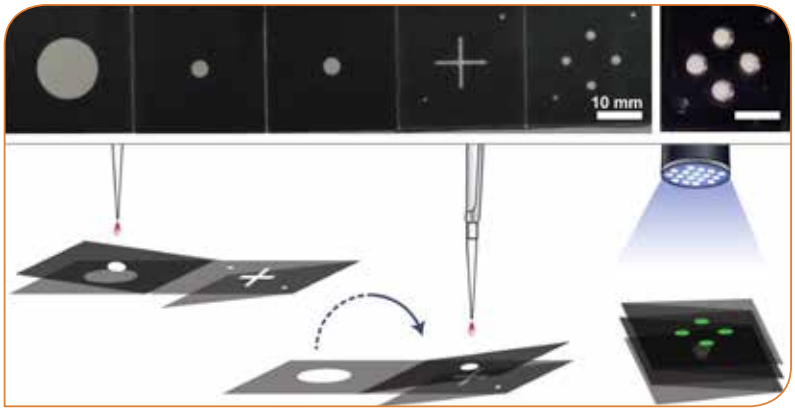
Detection system for malaria

Country of origin | United Kingdom

Primary function | Diagnosis



Health problem addressed

97 countries still report malaria transmission in 2014, which caused an estimated 584 000 deaths in 2013, with children <5 years of age in sub-Saharan Africa suffering the largest burden. Prophylaxis exist but is not affordable. The disease has been outlined for elimination by the WHO, but this requires a field-based diagnostics with a significant increase in sensitivity, with respect to current tests. This device is a multiplexed network address translation (NAT) detection system for malaria.

Disease addressed

Certain infectious and parasitic diseases.

Product information

The device can perform the multiplexed determination of microbial species from whole blood using the paper-folding technique of origami to enable the sequential steps of DNA extraction, loop-mediated isothermal amplification (LAMP) and array-based fluorescence detection. A low cost handheld flashlight reveals the presence of the final DNA amplicon to the naked eye, providing a "sample-to-answer" diagnosis from a fingerprick volume of whole blood, within 45 mins, with minimal user intervention.

Use and maintenance

User: Trained caregiver, technician.

Environment of use

Setting: Rural settings, urban settings, outdoors, indoors, at home, primary level (health post, health centre), secondary level (general hospital), ambulances.

Energy requirements: Replaceable batteries, rechargeable battery, continuous power supply, solar power.

Product specifications

Accessories: Dropper, hotplate or heat source with temperature control, flash light.

Other features: Healthcare waste disposal facilities (pathological waste, sharps, chemicals, etc.).

Commercial information

Reference price (USD): 0.5

Model: Paper Origami

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