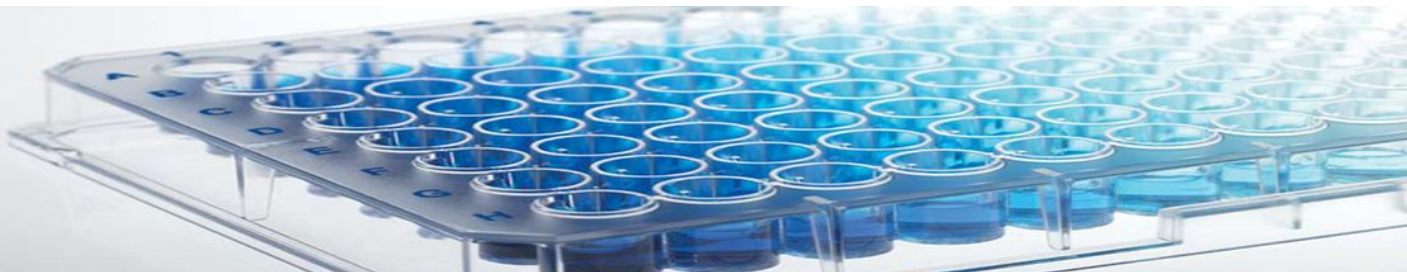




EARLY DISEASE DETECTION PAPER-BASED ELISA

An ELISA well-plate with novel design that allows to maximize the area of contact of a sample using special fibers, achieving a higher detection sensitivity.



BACKGROUND

Enzyme-linked immunosorbent assay (ELISA) is a biochemical technique, plate-based, used for detecting a specific antigen or protein (marker) in a sample, that can indicate the presence of a disease or a specific condition. Current ELISAs are not good for early detection of diseases, and the well-plates used to run this technique are usually made of polystyrene polymer, which is costly to functionalize in order to detect specific antigens/proteins in a sample.

TECHNOLOGY

A paper-based ELISA with 2 main characteristics:

- One-step fabrication of a fiber that can be easily functionalized in order to detect any type of antigen or marker.
- A novel ELISA well-plate with glue-free design that allows to maximize the area of contact of a sample with the fiber, achieving more detection sensitivity of the analyte of interest.

KEY BENEFITS

- Easy to functionalize fiber.
- Novel design allows more area of contact of a sample with the fiber = higher sensitivity.
- Glue-free design = no contamination.
- Can potentially be used to detect different markers in just one assay.
- Accuracy (98%) vs conventional ELISA (60%).
- Platform offers much lower limit of detection (7nM) vs. regular ELISA (3000nM).

DEVELOPMENT STATUS

- Novel ELISA well plate prototype developed using a standard well-plate + 3D printing.
- Detection of dengue NS1 protein at very low concentrations (early detection of disease) achieved.

Technology Readiness Level: 3/9

INTELLECTUAL PROPERTY

Patent pending.

This technology is available for licensing. More opportunities on our website: <http://redottec.com>



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