Point-of-Care Tests for Preeclampsia

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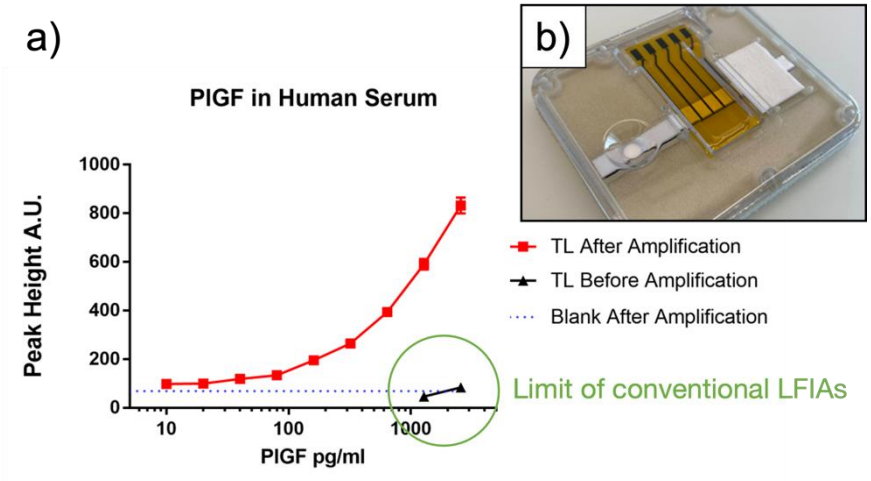
MOMM Diagnostics is developing a fast and precise point of care test for preeclampsia - a dangerous pregnancy condition. Our technology will assist doctors on-site to save the lives of mothers and babies. MOMM Diagnostics' novel point-of-care technology allows the simultaneous quantification of two low-abundant biomarkers from a single drop of the mother's blood. MOMM's rapid preeclampsia test aims at reliable and early-stage molecular diagnosis of PE during doctors' visits, using low-cost single-use cartridges and a hand-held reader.

Our technology is based on enzyme-linked lateral flow immunoassays (ELLFIA), for signal amplification, in combination with a quantitative electrochemical readout, by integration of low-cost ion-sensitive electrodes in single-use test cartridges. The approach enables rapid biomarker quantification down to sub-picomolar concentrations and opens previously laboratory-based diagnostic tests to point- of- need and self-testing.



Comparison of the colorimetric readout of the test line (TL) of an ELLFIA (red) and a conventional LFIA (black) for placental growth factor (PlGF) in human serum. The LOD is improved by three orders of magnitude compared to conventional LFIAs. b) Prototype cartridge with ELLFIA test strip and printed ion-sensitive electrodes for quantitative electrochemical readout.