

Electronic Supplementary Information

Lateral flow immunochromatographic assay on a single piece of paper

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Table S1 Comparison of parameters for different substrate materials

Material	Thickness	Capillary Flow Rate	Protein Binding	Cost
Whatman™ Grade 1 Chr	0.18 mm	553.8 s/4cm	Excellent	\$15.66/m ²
Whatman™ Grade 3MM Chr	0.34 mm	553.8s/4cm	Excellent	\$16.44/m ²
Whatman™ FF120HP	0.1 mm	90-150 s/4cm	Excellent	\$177.6/m ²
Fusion 5	0.37	38 s/4cm	Poor	\$121.78/m ²

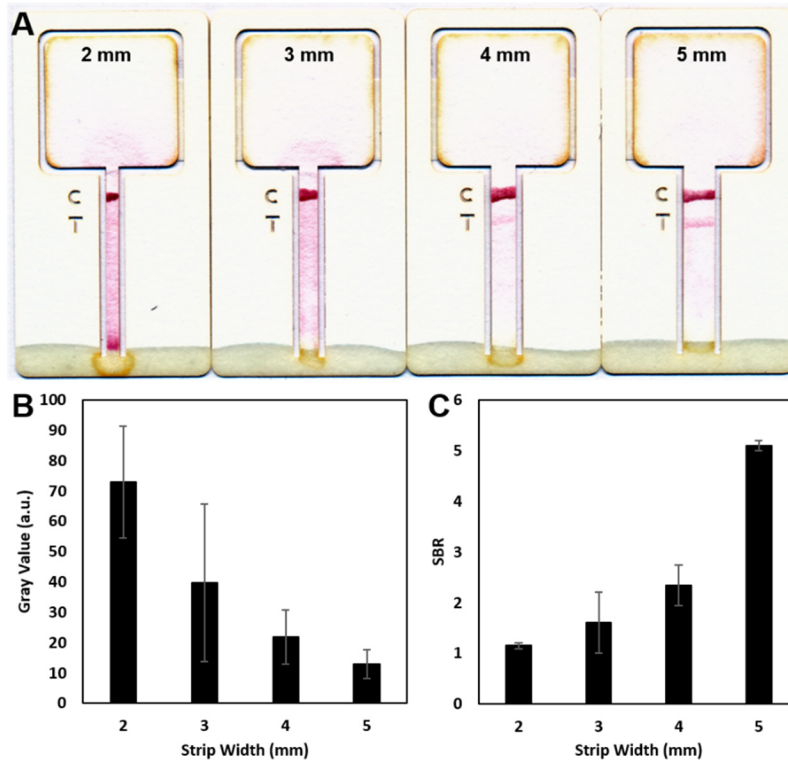


Fig. S1 (A) Test results of samples containing 32 ng/mL of *Pf*/HRP2 in PBS using assay cards with 2 mm-, 3 mm-, 4 mm- or 5 mm-wide test strips. The plastic film is removed from the card for improved visualization of the test strip. (B) Mean gray values of the background color for test strips with varying widths obtained from images in panel A. (C) Signal-to-background ratios (SBRs) generated from mean gray values of the test line and background color of the test strip. Each bar represents the mean \pm SD of three measurements.

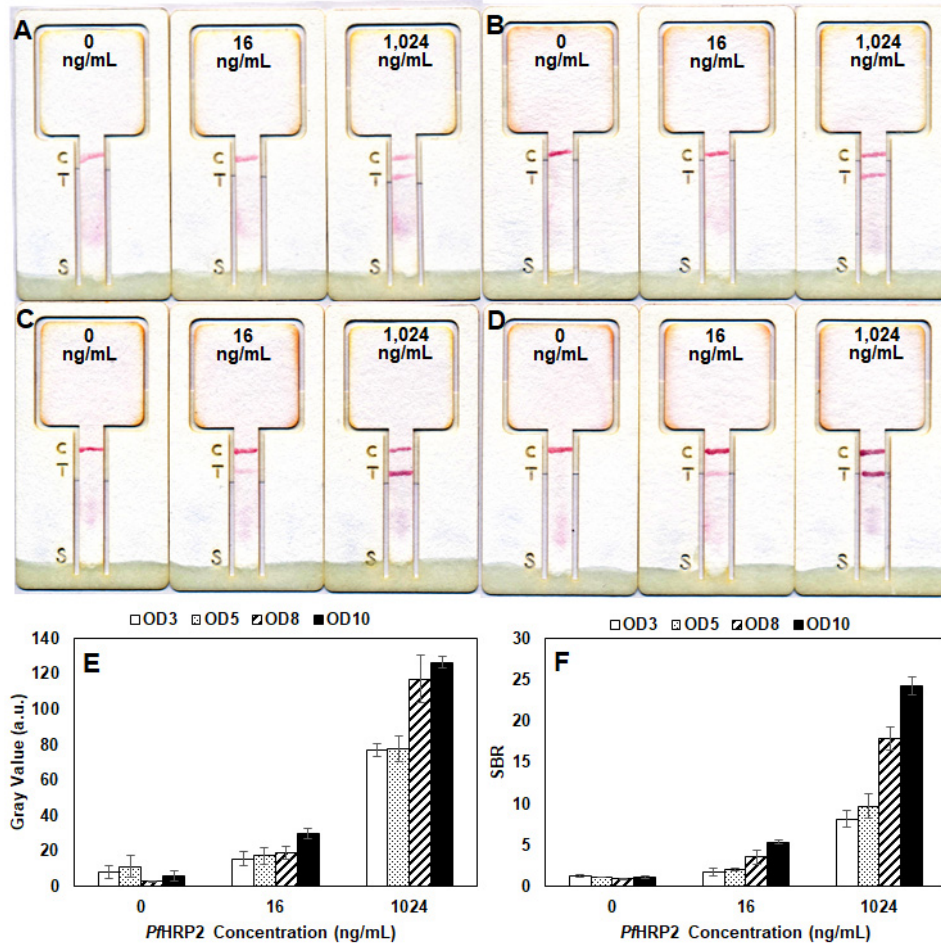


Figure S2. Test results of samples containing 0 ng/mL, 16 ng/mL and 1,024 ng/mL of *Pf*HRP2 in PBS using assay cards containing AuNP-IgG conjugates with AuNP ODs of OD 3 (A), OD 5 (B), OD 8 (C) or OD 10 (D). The plastic film is removed from the card for improved visualization of the test strip. (E) Mean gray values of the test line obtained from images in panels A-D. (F) SBRs generated from mean gray values of the test line and background color of the test strips in panels A-D. Each bar represents the mean \pm SD of three measurements.