Supporting Information

Cord-Based Microfluidic Chips as a Platform for ELISA and Glucose Assays

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Detecting Biotinylated Goat anti-Mouse IgG & Rabbit IgG

As seen in Tables S1 and S2, it is described how each reagent was administered onto the platform, how much volume was used, how long the drying time, and overall total time required to run each point of care chip on the μCAD platform.

Table S1. Reagents and reaction wait times for the detection of goat anti-mouse IgG antibody using the μCAD platform as a POC device.

Reagents	**Administration of fluid**	**Volume [μL]**	**Time [min]**
NC functionalization of reaction site	Spot	100	15
Biotin labeled IgG	Spot	1.5	10
Wash	Flow	10 x 3	1
Strep-ALP	Flow	15	5
Wash	Flow	10 x 3	1
p-NPP	Spot	1.5	10
p-NPP stop	Spot	1.5	10
Total	--	**179.5 μL**	**52 min**

Table S2. Reagents and reaction wait times for the detection of rabbit IgG antibody using the μCAD platform as a POC device.

Reagents	**Administration of fluids**	**Volume [μL]**	**Time [min]**
Antigen immobilization	spot	1.5	10
Blocking buffer	spot	1.5	10
Antibody complexing	spot	1.5	1
Wash	flow	100 X 20	25
Representative substrate molecule	spot	1.5	30
Total	**--**	**2006 μL**	**76 min**

Detection of Glucose in Urine

As seen in Table S3, it is described how the reagents were administered onto the μCAD platform, how much volume was used, how long the wait time was for each reagents, and total time it required to run each assay on the μCAD platform.

Table S3. Reagents and reaction wait times for the detection of glucose using the μCAD platform.

Reagents	**Administration of fluids**	**Volume [μL]**	**Time[min]**
Glucose	spot	5	10
GOx, HRP, KI	flow	45	10
--	flow	--	30
Total	**--**	**50**	**50**