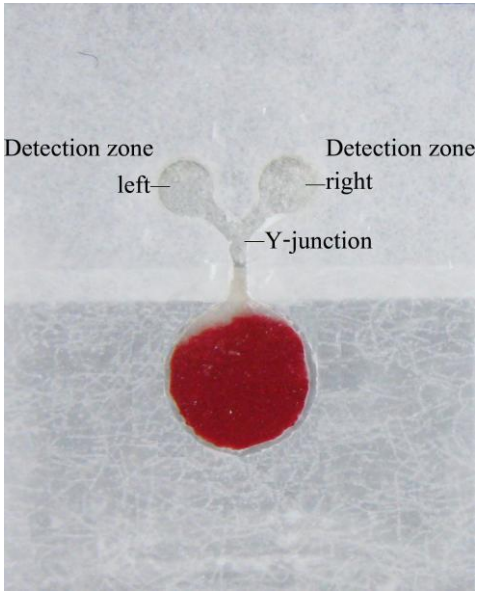
Electronic Supplementary Material (ESI) for Lab on a Chip

Blood separation on microfluidic paper-based analytical devices

Temsiri Songjaroen, Wijitar Dungchai, Orawon Chailapakul, Charles S. Henry and Wanida Laiwattanapaisal

Table S-1 The microscopy image of Y-junction and detection zone on µPADs after applying whole blood to the separation zone.

Overview of labeled areas on µPAD	Time after applying whole blood (min)	Y-junction	Detection zone (left)	Detection zone (right)
 Optimal blood volume (15 µL)	2	Fully wet with plasma and clear of red blood cells		
	5	Fully wet with plasma and clear of red blood cells		
	10	Fully wet with plasma and clear of red blood cells		

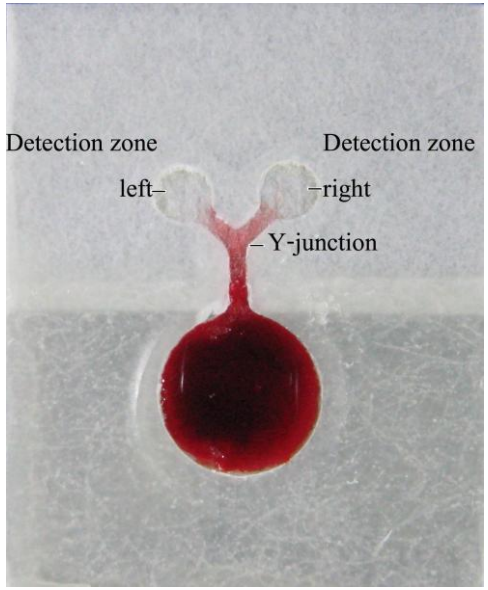
Overview of labeled areas on µPAD	Time after applying whole blood (min)	Y-junction	Detection zone (left)	Detection zone (right)
 Excessive blood volume (30 µL)	2	Fully wet with plasma and clear of red blood cells		
	5	Leaked red blood cells		
	10	Leaked red blood cells	Red blood cell leakage	

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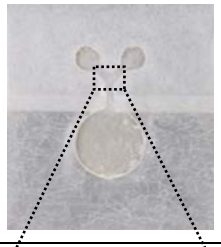
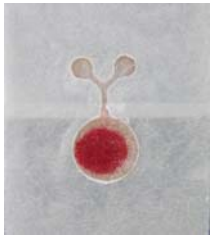
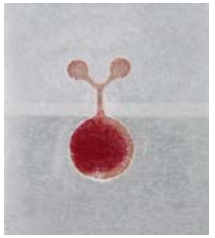
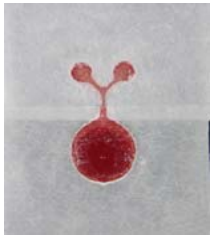
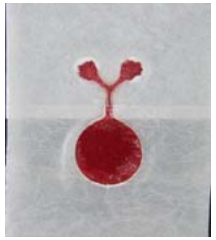
Table S-2 Plasma separation from non-hemolyzed and hemolyzed blood samples on the µPADs.

Type of picture	Plasma	Non-hemolyzed sample	Hemolyzed samples Hemoglobin concentration (g/dL)					
			1	1.9	2.4	4.0	7.1	14
Naked eye observed								
Observed under microscope (40x)