

Supporting information

Micro-rheological method for determination of blood type

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Vid. S1. Agglutinated and non-agglutinated droplets flowing through the winding channel, alternatingly.

Vid. S2. Agglutinated droplet flowing through the winding channel. The process of concentration of RBCs agglomerates in the rear of droplet is clearly visible.

Fig. S1. Differences in time of flow of droplets containing different volume fractions of the solution of antibodies.

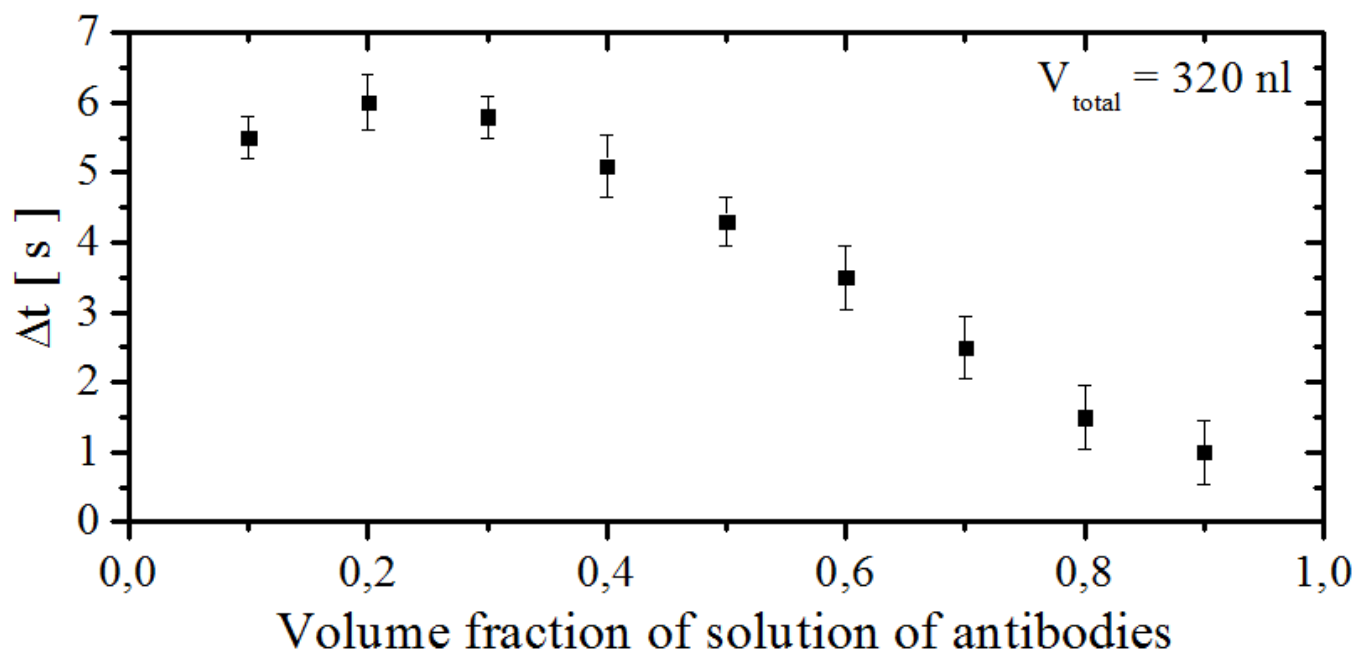


Table. S2. Average times of flow, standard deviations and multiple standard deviations for each sample type tested. The threshold value of the time of flow of droplets was calculated as the mean value of the measurements. We then calculated the spacing (s) of the mean values of time of flow for each sample from the threshold. We report the spacing normalized by the standard deviation of the measurements for each sample $s = (t_{average\ time\ of\ flow} - t_{threshold}) / \sigma$. Thus, the spacing gives the multiplicity of standard deviation from the threshold value and can be used to estimate the chance of an error. For the least reproducible set of data that we recorded (highlighted with the bold font in the table below) this probability is less than 1 in a million.

	Sample	Average time of flow [s]	Standard deviation σ [s]	s [σ]
Standardized RBCs	A ₁ Rh-/Anty A	127,92614	0,30011	12,95256739
Standardized RBCs	A ₁ Rh-/Anty B	122,53116	0,26723	5,642274445
Standardized RBCs	B Rh-/Anty B	127,77471	0,25467	14,66904229
Standardized RBCs	B Rh-/Anty A	122,33119	0,26338	6,483996507
Standardized RBCs	O Rh-/Anty A	122,38149	0,27412	6,046457756
Standardized RBCs	O Rh-/Anty B	122,56746	0,27369	5,376466075
Standardized RBCs	O Rh-/Anty D	122,00516	0,47288	4,293023365
Standardized RBCs	A ₂ Rh+/Anty A	128,14441	0,53123	7,728225063
Standardized RBCs	A ₂ Rh+/Anty D	128,12114	0,61221	6,667965241
Human blood	A ₁ Rh+/Anty A	130,95163	0,35307	19,57879457
Human blood	A ₁ Rh+/Anty D	127,98309	0,34028	11,59088104
Human blood	A ₁ Rh+/Anty B	118,96828	0,28486	17,80055115
Human blood	A ₂ Rh+/Anty A	128,46651	0,28877	15,33249645
Human blood	A ₂ Rh+/Anty D	127,91034	0,26324	14,70671251
Human blood	A ₂ Rh+/Anty B	118,52507	0,44147	12,48980678
Human blood	O Rh-/Anty A	118,00914	0,28674	21,02882402
Human blood	O Rh-/Anty D	118,91299	0,40499	12,65699153
Human blood	O Rh-/Anty B	119,1246	0,38397	12,79877334

$t_{threshold}$:	124,038945 s
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