

Supplementary Information for

Tunable Control of Antibody Immobilization using Electric Field

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The raw data representing the signal intensity in the anti-IgG and IgG assay are tabulated below, for the cases where no electric field was applied across the channel during IgG immobilization ('Control') vs. the cases where electric fields of different strengths were applied during the immobilization step. To account for potential variations in conditions from experiment to experiment, for each assay, the control experiment was run in a parallel channel embedded in the same PDMS chip. Upon performing the assay, multiple images were captured along each microfluidic channel. Image J was used to analyze the captured images and to measure the mean gray value as the signal intensity representing the anti-IgG and IgG bindings in the channel.

Corresponding Raw Data:

Experiment 1 (1 V/cm vs. Control)	Control	1 V/cm	
	62.047	53.745	
	38.554	68.268	
	56.558	59.651	
	62.213	59.7605	
	57.457	64.561	
	71.971	48.241	
	61.989	66.2605	
	63.197	60.522	
	60.47	70.236	
54.201	80.1455		
Experiment 2 (4 V/cm vs. Control)			
Experiment 2 (4 V/cm vs. Control)	Control	4 V/cm	
	23.158	104.5065	
	26.281	54.8395	
	21.966	54.58	
	38.32	44.545	
	26.309	42.9715	
	31.4	72.1495	
	38.757	45.7025	
	40.596	55.45	
	24.427	53.5385	
	28.086	65.3505	
	22.6	50.8525	
Experiment 3 (1 V/cm & 4 V/cm vs. Control)			
Experiment 3 (1 V/cm & 4 V/cm vs. Control)	Control	1 V/cm	4 V/cm
	29.48	36.095	66.955
	29.453	91.524	91.582
	35.398	89.291	82.028
	32.242	70.493	69.167
	33.03	51.586	68.367
	34.614	43.541	53.634
	38.598	43.913	53.4
	38.186	53.268	71.119
	44.585	42.917	52.594
40.406	47.792		
	78.691		
Experiment 4 (1 V/cm & 4 V/cm vs. Control)			
Control	1 V/cm	4 V/cm	

	16.96	20.901	22.611
	17.066	20.344	32.566
	18.044	19.969	21.601
	22.632	21.535	42.37
	14.917	17.386	28.549
	14.851	8.916	22.946
	8.204	26.438	20.807
	9.375	23.21	20.254
	19.231	18.939	20.412
	8.817	25.155	33.354
	20.647		28.226
Experiment 5 (4 V/cm & 8 V/cm vs. Control)			
	Control	4 V/cm	8 V/cm
	130.958	143.61	53.425
	25.152	70.565	255
	60.754	55.659	64.378
	81.12	157.257	64.48
	46.306	39.123	84.597
	43.944	90.938	55.435
	46.081	85.238	68.368
	44.399	131.933	246.839
	70.204	70.364	83.301
	192.807	62.071	
	43.787	150.241	
Experiment 6 (4 V/cm & 8 V/cm vs. Control)			
	Control	4 V/cm	8 V/cm
	85.9645	193.601	130.184
	74.373	97.946	78.858
	79.608	52.011	130.92
	92.4765	120.856	104.99
	72.015	67.721	100.002
	113.4425	61.869	80.627
	54.3435	122.151	145.073
	95.012		97.115
Experiment 7 (8 V/cm vs. Control)			
	Control	8 V/cm	

	0	78.422	
	0	42.666	
	0	32.268	
	0	126.313	
	0	48.374	
		74.544	
		129.273	
		49.199	