Supporting Information

One-way multiplexed immunoassay strategy for simultaneous determination of multi-analytes by microchip electrophoresis

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Comparison of fluorescence intensity with and without untreated glass beads

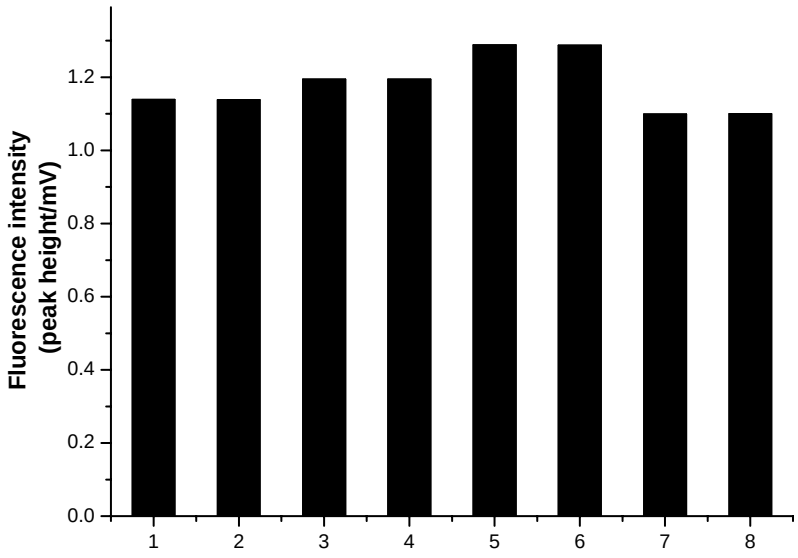
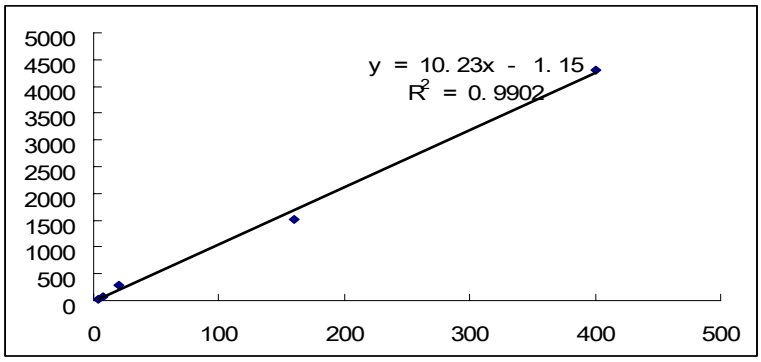
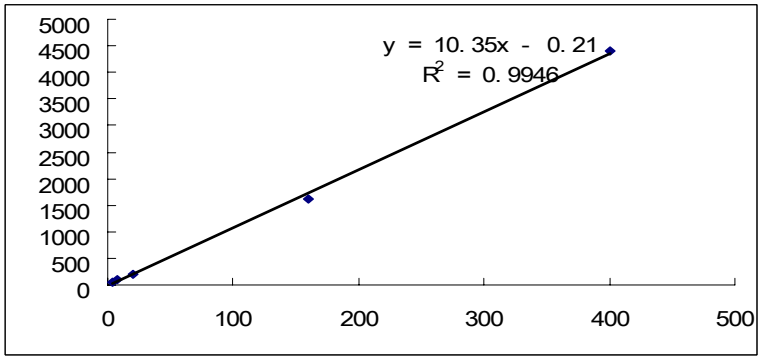


Fig. S1. Comparison of fluorescence intensity with and without untreated glass beads. 1. F-Th only; 2. F-Th with untreated beads; 3. F-CBZ only; 4. F-CBZ with untreated beads; 5. F-PB only; 6. F-PB with untreated beads; 7. F-PHT only; 8. F-PHT with untreated beads.

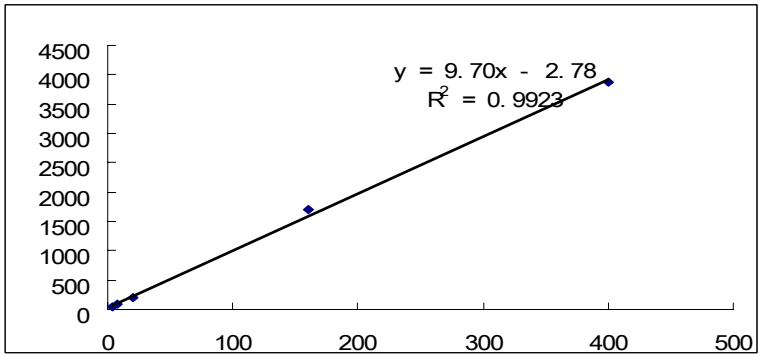
Calibration curves for four drugs tested by the present MCE-IA assay



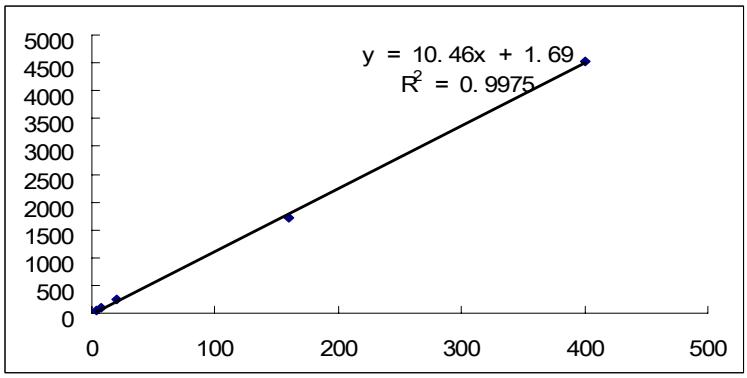
(A)



(B)



(C)



(D)

Fig. S2. Calibration curves for four drugs tested by the present MCE-IA assay. X is the concentration of the drugs tested (nM), Y is the relative fluorescence intensity (μV). A. Th; B. CBZ; C. PHT; D. PB.

Comparison of results for the determination of four drugs spiked in human serum by MCE-IA and FPIA methods

To evaluate the reliability of the proposed MCE-IA method in the application for the analysis of human serum samples, a comparison with the established fluorescence polarization immunoassay (FPIA) method (reference 35) was carried out. Because the FPIA method can not afford enough sensitivity to determine low concentration of the drugs in human serum, relatively large amounts of the drugs tested were spiked into serum samples, and then these serum samples were analyzed with our proposed method and the FPIA methods. Table S1 shows the analytical results of spiked serum samples by two methods. The results from our proposed method were well consistent with those of the FPIA method. These results indicated that the proposed MCE-IA method could be used as a viable alternative technique for multiplexed analysis.

Table S1. Results for the determination of four drugs spiked in human serum by MCE-IA and FPIA methods.

Analyte	Added (μM)	MCE-IA method (μM)	FPIA Method (μM)
PB	2.0	1.9	2.1
	10.0	10.2	9.8
	50.0	49.6	50.8
PHT	2.0	2.1	2.0
	10.0	9.7	9.9
	50.0	49.4	50.6
CBZ	2.0	2.0	1.9
	10.0	9.6	10.1
	50.0	51.2	51.0
Th	2.0	1.8	1.9
	10.0	10.4	10.7
	50.0	50.9	51.3