Supporting information

Microbead-Based Platform for Multiplex Detection of DNA and Protein

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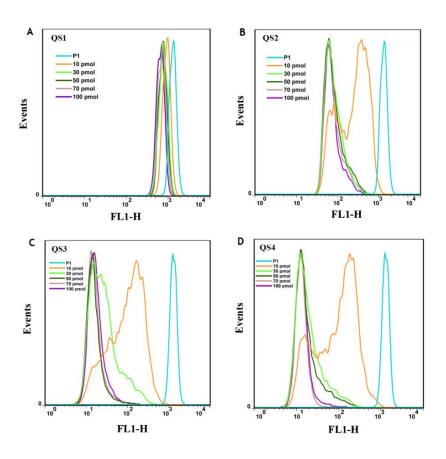


Figure S1. Fluorescence changes of P1 modified microbeads in the presence of different amount of QS (A, QS1; B, QS2; C, QS3; D, QS4) DNA.

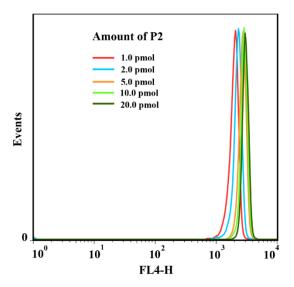


Figure S2. Effect of the amount of P2 on the fluorescence of microbeads.

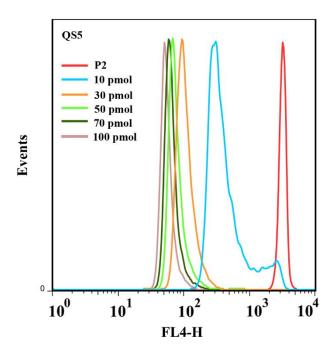


Figure S3. Fluorescence changes of P2 modified microbeads in the presence of different amount of QS5 DNA.

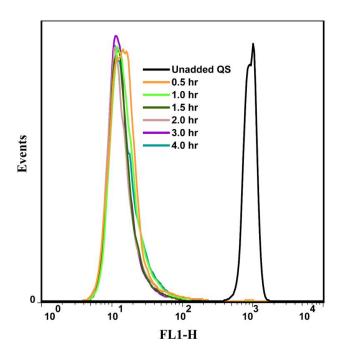


Figure S4. Effect of incubation time of QS3 DNA on the fluorescence of P1 modified microbeads.

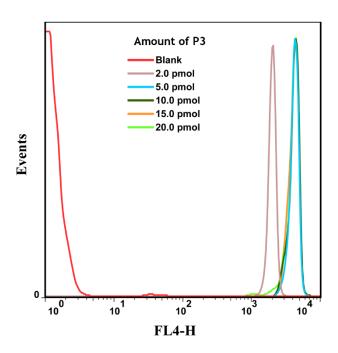


Figure S5. Effect of the amount of P3 on the fluorescence of microbeads.

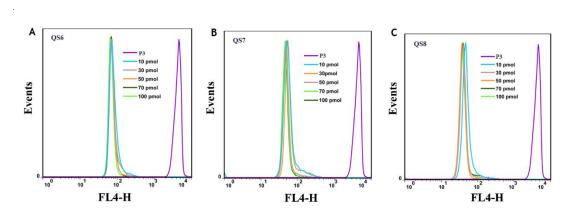


Figure S6. Fluorescence changes of P3 modified microbeads in the presence of different amount of QS (A, QS6; B, QS7; C, QS8) DNA.

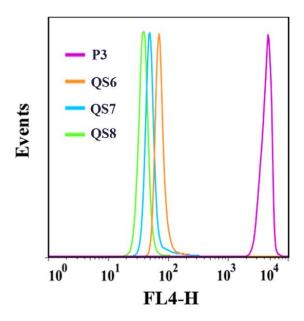


Figure S7. Effect of QS length on the quench efficiency of P3 modified microbeads.

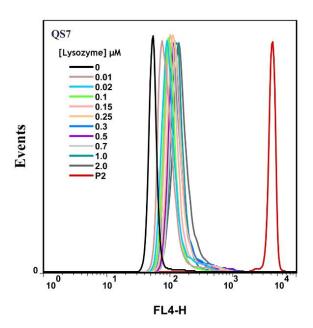


Figure S8. Fluorescence response of P3-QS7 modified microbeads to different concentrations of lysozyme $(0, 0.01, 0.02, 0.1, 0.15, 0.25, 0.3, 0.5, 0.7, 1.0, 2.0 \,\mu\text{M})$.

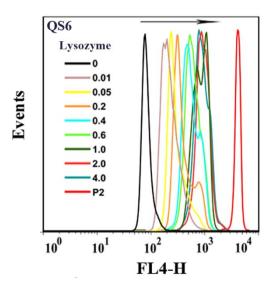


Figure S9. Fluorescence response of P3-QS6 modified microbeads to different concentrations of lysozyme $(0, 0.01, 0.05, 0.2, 0.4, 0.6, 1.0, 2.0, 4.0 \,\mu\text{M})$.

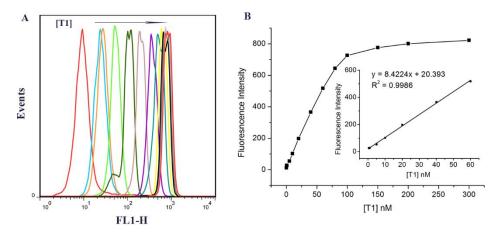


Figure S10. (A) Fluorescence response of P1-QS3 modified microbeads versus different final concentration of DNA T1 (0, 0.5, 1.0, 5.0, 10.0, 20.0, 40.0, 60.0, 80.0, 100.0, 150.0, 200.0, 300.0 nM) in the reaction mixture (beads solution / serum: $40~\mu L$ / $10~\mu L$; corresponding T1 concentration in serum was 0, 2.5, 5.0, 25.0, 50.0, 100.0, 200.0, 300.0, 400.0, 500.0, 750.0, 1000.0, 1500.0 nM). (B) plot of fluorescence intensity versus T1 concentration. Inset: Linear fitting curve.

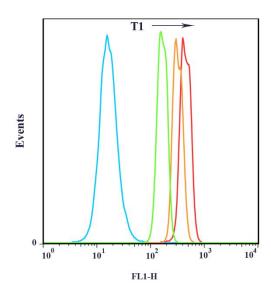


Figure S11. Fluorescence response of P1-QS3 modified microbeads to different concentration of DNA T1 (0, 100, 200, 250 nM) spiked in human serum.