Electronic Supplementary Material (ESI) for Analytical Methods


**Supplementary Information**

# Direct labeling rolling circle amplification as a straight forward signal amplification technique for biodetection formats

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## Exemplary DNA microarray image

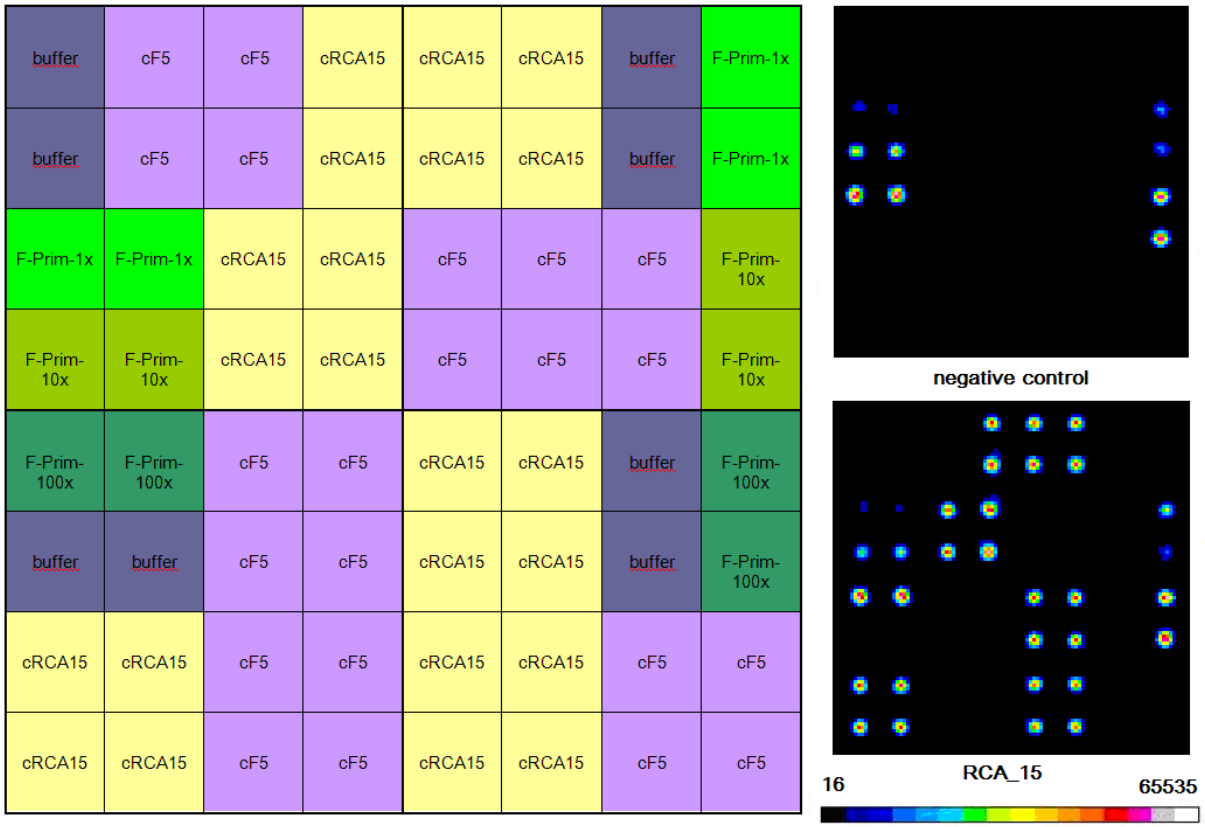


Figure S1: Spotting layout (left) and microarray scanner images (right) of the DNA microarray. Negative control: circular template omitted. RCA_15: circular template added.

**Reaction solutions**

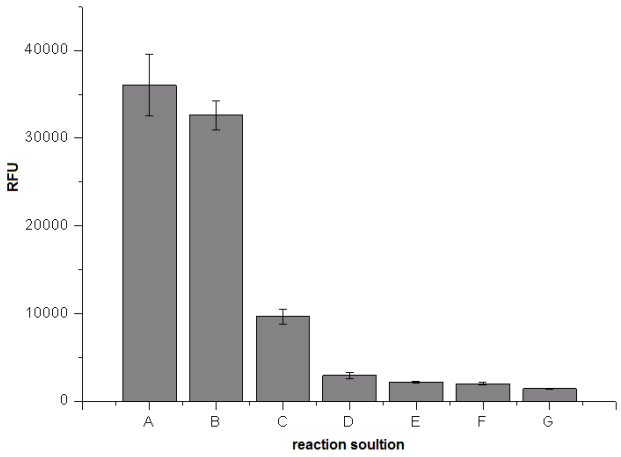


Figure S2: Rolling circle amplification reaction solutions.

For all reactions, 50 µL reaction solution with 10 U ϕ29 polymerase, 0.3 µM BSA in ϕ29 buffer were applied. Shown here are the results for Cy3-dUTP. DY-555-dUTP displayed the same order of signals and signal sizes. While reaction solution A and B are equally good, solution A is twice as expensive. Therefore, reaction solution B was used for the experiments presented in the manuscript.

Table S1: Rolling circle amplification reaction solution composition

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| dA/G/CTP [mM] | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| dTTP [µM] | - | - | 2 | - | 10 | - | 20 |
| dye-dUTP [µM] | 2 | 1 | 1 | 1 | 1 | 0.1 | 1 |