**Supporting Information**

# Enhanced immunoassay using a rotating paper platform for quantitative determination of low abundance protein biomarkers

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Table S1. The oligonucleotide sequences

| Name | Sequence |
|------|----------|
| Molecular beacon (MB) | 5'- /SH/-CTGAGCACAGTCCTCAGCGAAA -/Cy3/-3' |
| Reporter oligonucleotide (R-oligo) | 5'- TTTCGCTGAGGACTGTTTTT -3' |
| Capture oligonucleotide (C-oligo) | 5'- /SH/ -AAA AAC AGT CCT CAG CGA AA -3' |
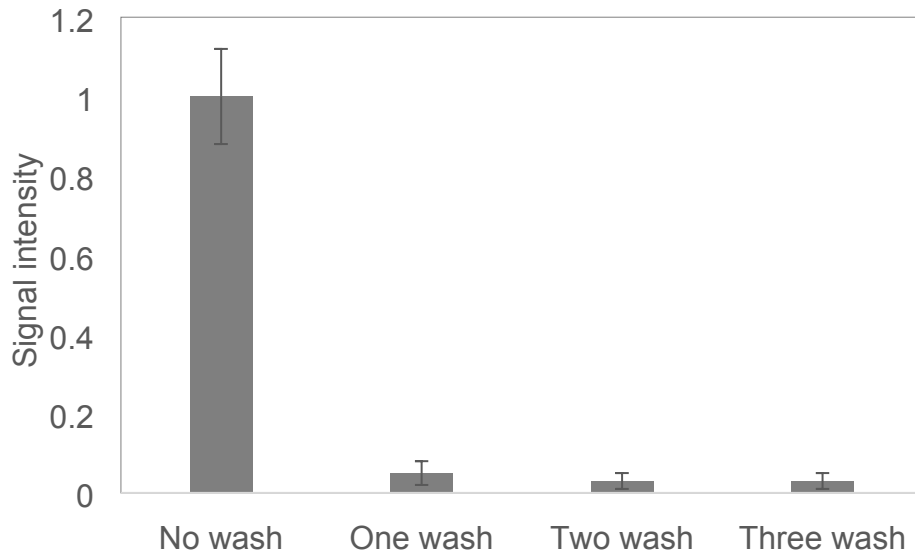
**Figure S1.** Optimization of the number of washing cycles after each step in the sandwich immunoassay reaction. The colorimetric signal of the IA zone was measured for the addition of negative control solutions as well as the BNP solution.

**A**



**B**



$$y = 0.2196x + 6.289$$
$$R^2 = 0.9936$$
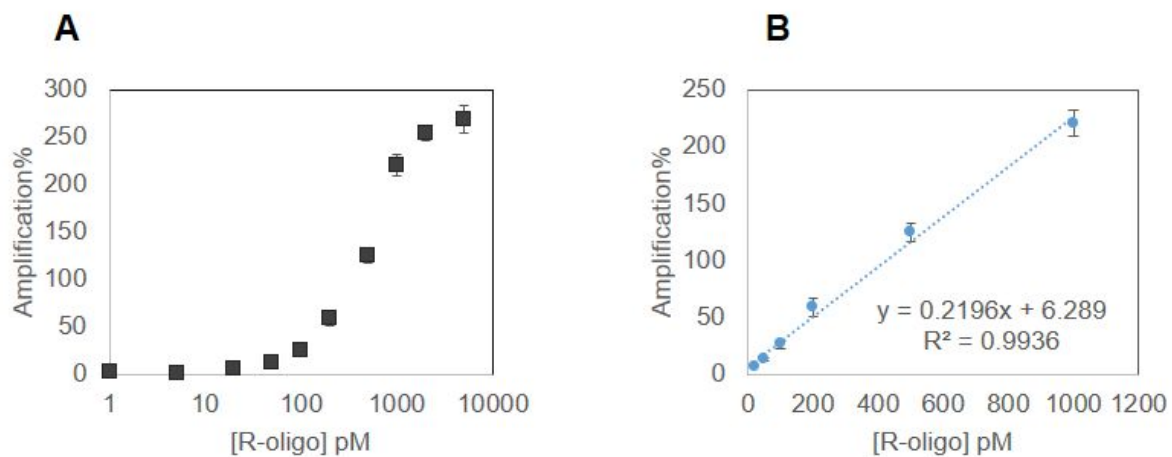
**Figure S2.** (A) Signals obtained from the amplification of R-oligos of 1-5000 pM using the EXO method. (B) the linear calibration curve for the R-oligo concentration in the range of 20-5-1000 pM.
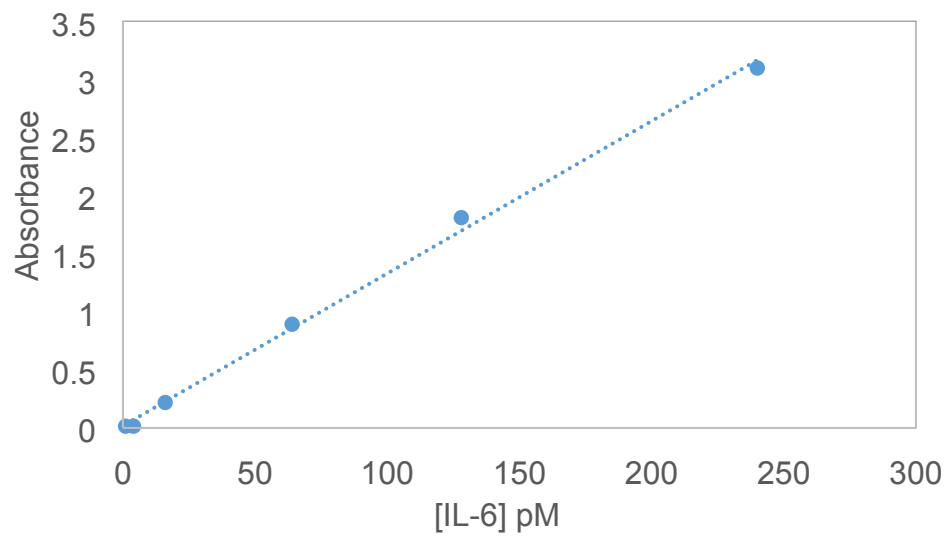
**Figure S3.** The calibration curve prepared for determination of IL-6 using ELISA. The dynamic range is 1 - 250 pM.