

**Label-free detection of nicotinamide adenine dinucleotide based on
ligation-triggered exonuclease III-assisted signal amplification**

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Table S1. Sequences of oligonucleotides used in this study

Name	Sequence (5'→3')
Oligo1	p-TACAAGACACAATAAC
Oligo2	GACGGGAAG
cDNA	GTGTCTTGTACTTCCCGTC
G4 DNA	CTCTTCGAGGGTTTTGGGTTTTGGGTTTTGGGAGCTA
template (40nt)	AAAACCCAAAACCCAAAACCCGTGTCTTGTACTTCCC GTC
template (43nt)	CCCAAACCCAAAACCCAAAACCCGTGTCTTGTACTT CCCGTC
template (34nt)	CAAACCCAAAACCCGTGTCTTGTACTTCCCGTC

Lower-case letter 'p' indicates phosphate group.

Optimization of the reaction conditions

To achieve the best performance of our signal amplification strategy, various experimental conditions were investigated, including the concentration of oligo1/oligo 2 DNA, cDNA, and G4-template DNA, the dosage of Exo III and *E. coli* DNA ligase, different pH, and the concentration of NMM.

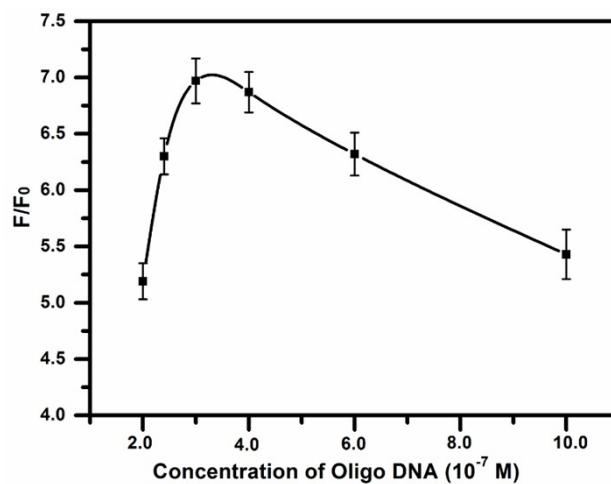


Fig. S1. The influence of Oligo DNA concentration on the NAD^+ amplified detection system.

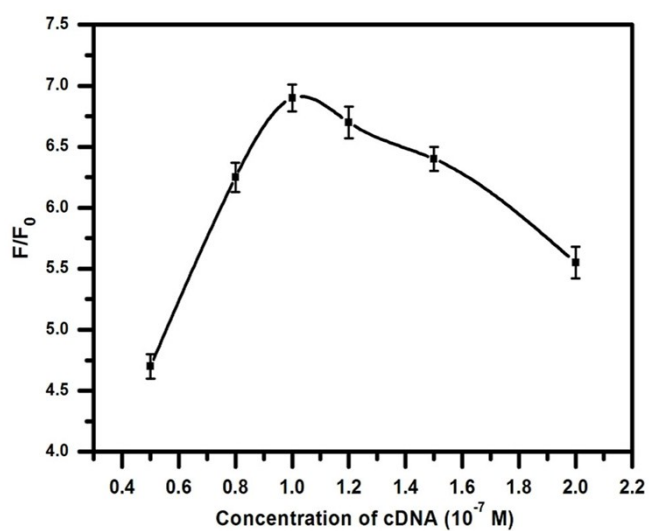


Fig. S2. The influence of cDNA concentration on the NAD^+ amplified detection system.

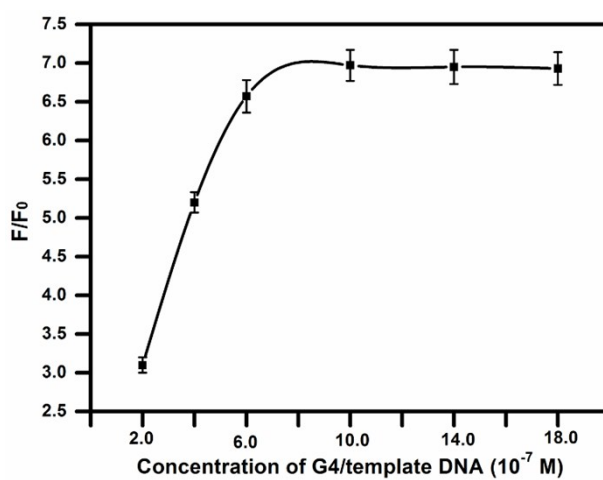


Fig. S3. The influence of G4/template concentration on the NAD^+ amplified detection system.

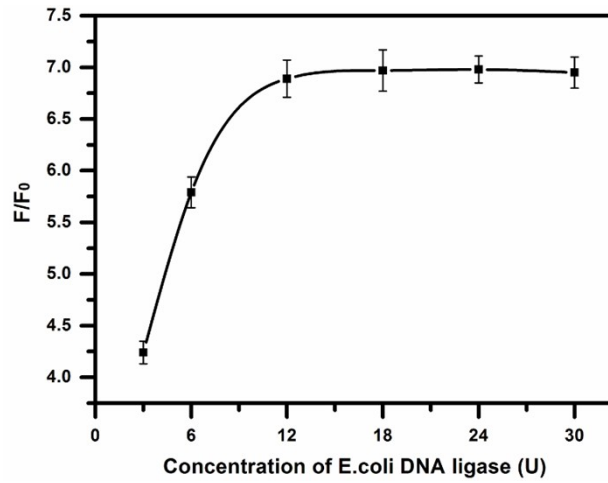


Fig. S4. The influence of *E. coli* DNA ligase dosage on the NAD⁺ amplified detection system.

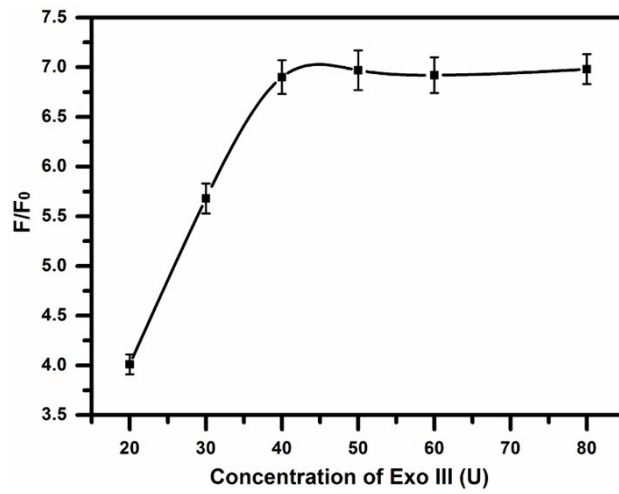


Fig. S5. The influence of Exo III ligase dosage on the NAD⁺ amplified detection system.

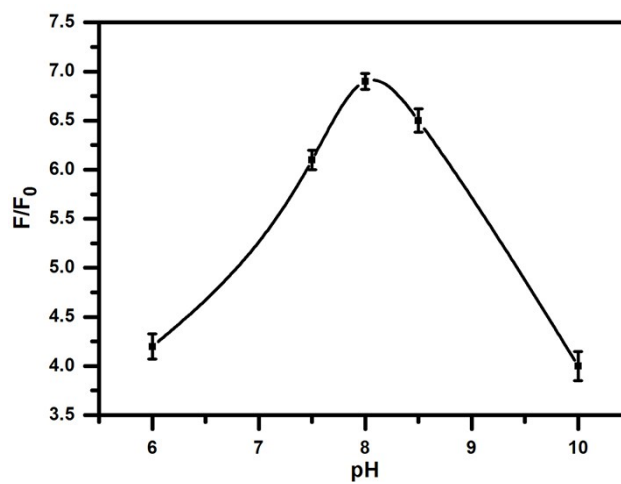


Fig. S6. The influence of different pH on the NAD⁺ amplified detection system.

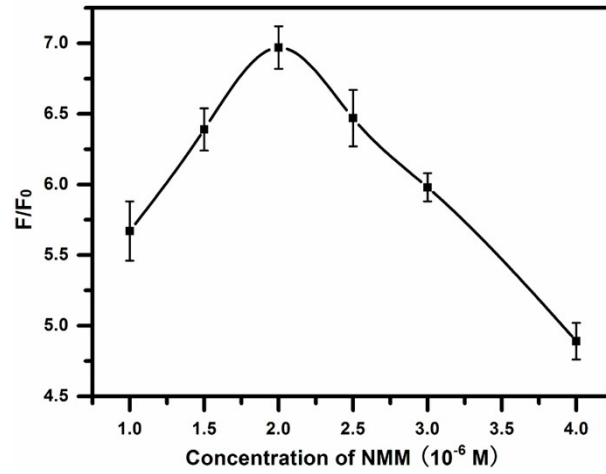


Fig. S7. The influence of NMM concentration on the NAD⁺ amplified detection system.