

Supporting Information

A facile fluorescence method for endonuclease detection using exonuclease III-aided signal amplification of molecular beacon

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Table S1 The oligonucleotides used in this work.

Oligonucleotides	Oligonucleotide Sequences (5' to 3')
Hairpin substrate 1	TACGACGATGCTCTGAGAAATTCCTTTTGA GAATTC TCAGACATCGTCGTAGCTTTTTT
Hairpin substrate 2	TACGACGATGCTCTGAGGATCCCTTTTGA GGATCC TCAGACATCGTCGTAGCTTTTTT
MB	(DABCYL)-CATCG AAGCTACGACGATGCTGA -(FAM)

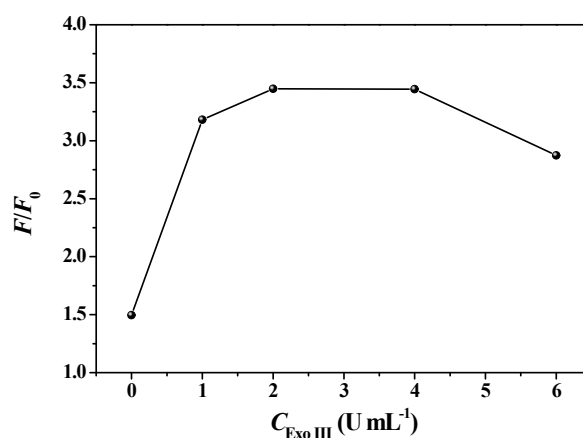


Fig. S1 Signal-to-noise (F/F_0) with different amounts of Exo III. F_0 and F are the fluorescence intensity in the absence and presence of 100 U mL^{-1} EcoRI, respectively. [Hairpin substrate 1] = 100 nM , [MB] = 200 nM .

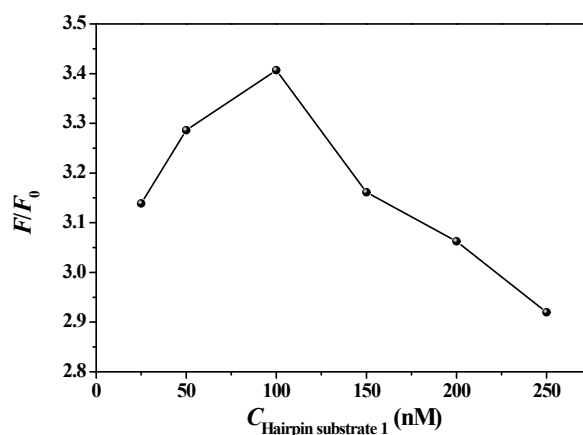


Fig. S2 Signal-to-noise (F/F_0) with different concentrations of Hairpin substrate 1. F_0 and F are the fluorescence intensity in the absence and presence of 100 U mL^{-1} EcoRI, respectively. [MB] = 200 nM , [Exo III] = 2.0 U mL^{-1} .

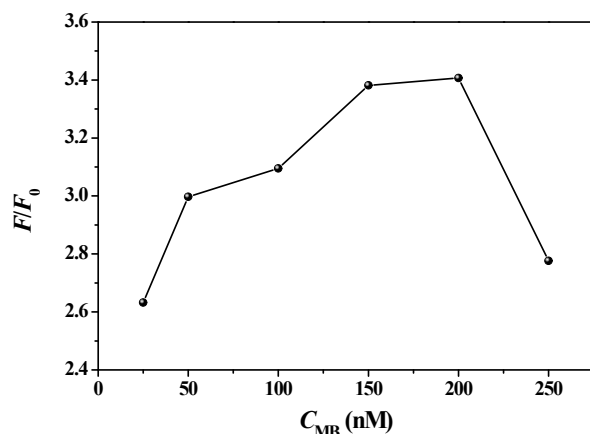


Fig. S3 Signal-to-noise (F/F_0) with different concentrations of MB. F_0 and F are the fluorescence intensity in the absence and presence of 100 U mL^{-1} EcoRI, respectively. [Hairpin substrate 1] = 100 nM , [Exo III] = 2.0 U mL^{-1} .

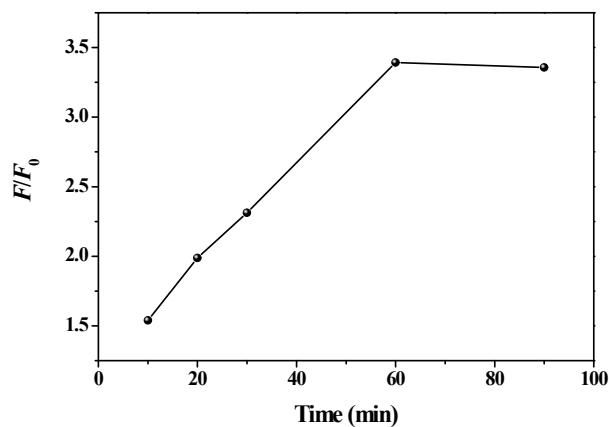
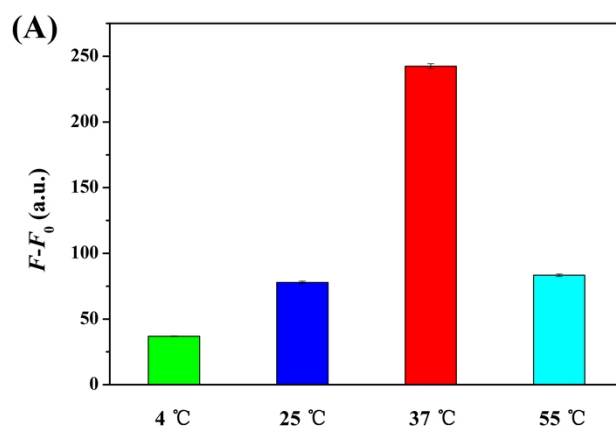


Fig. S4 Signal-to-noise (F/F_0) versus incubation time at $37 \text{ }^\circ\text{C}$. F_0 and F are the fluorescence intensity in the absence and presence of 100 U mL^{-1} EcoRI, respectively. [Hairpin substrate 1] = 100 nM , [MB] = 200 nM , [EcoRI] = 100 U mL^{-1} , [Exo III] = 2.0 U mL^{-1} .



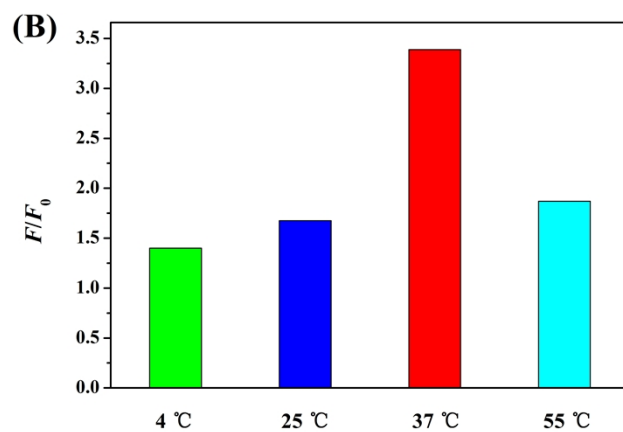


Fig. S5 (A) Fluorescence enhancement and (B) signal-to-noise (F/F_0) of this sensing method at different incubation temperature. F_0 and F are the fluorescence intensity in the absence and presence of 100 U mL^{-1} EcoRI, respectively. [**Hairpin substrate 1**] = 100 nM , [**MB**] = 200 nM , [EcoRI] = 100 U mL^{-1} , [Exo III] = 2.0 U mL^{-1} .