Supporting Information

Sensitive Detection of Transcription Factors by Isothermal Exponential Amplification-Based Colorimetric Assay

Yan Zhang, Juan Hu, Chun-yang Zhang*

Single-Molecule Detection and Imaging Laboratory, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Guangdong 518055, China

* To whom correspondence should be addressed. Tel: +86 755 86392211; Fax: +86 755 86392299; Email: zhangcy@siat.ac.cn.

Optimization of the EXPAR Temperature. To obtain high amplification efficiency of EXPAR, the reaction temperature was optimized. The products of EXPAR at different temperature were analyzed by nondenaturating PAGE (Figure S-1). A well-defined band of reporter oligonucleotide (24 nt) was observed at 40℃ (lane 3 in Figure S-1) in the presence of NF-κB p50. In contrast, no band of 24 nt was observed at 40℃ for the negative control without NF-κB p50 (lane 4 in Figure S-1). Moreover, no band of 24 nt was observed at either 37℃ (lanes 1 and 2 in Figure S-1) or 43℃ (lanes 5 and 6 in Figure S-1) regardless of the presence (lanes 1 and 5 in Figure S-1) or the absence (lanes 2 and 6 in Figure S-1) of NF-κB p50. Therefore, the temperature of 40℃ was selected in the following EXPAR assay.

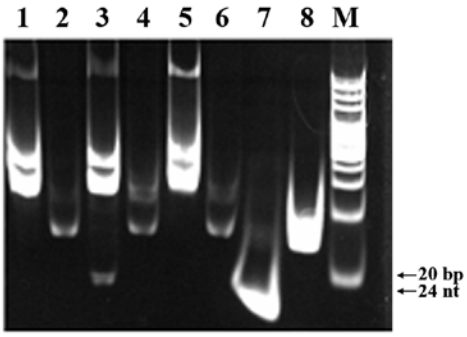

Figure S-1. Nondenaturating PAGE analysis of the EXPAR products at different temperature. Lane 1, at 37℃ in the presence of 8 nM NF-κB p50; lane 2, at 37℃in the absence of NF-κB p50; lane 3, at 40℃in the presence of 8 nM NF-κB p50; lane 4, at 40℃in the absence of NF-κB p50; lane 5, at 43℃in the presence of 8 nM NF-κB p50; lane 6, at 43℃in the absence of NF-κB p50; lane 7, in the presence of the reporter oligonucleotides (24 nt); lane 8, in the presence of the templates; lane M, the DNA ladder marker. The concentration of NF-κB probes is 8 nM.