# Supporting Information for

# Single Molecule Dissociation of a Mycotoxin/Aptamer Complex in an α-hemolysin Nanopore

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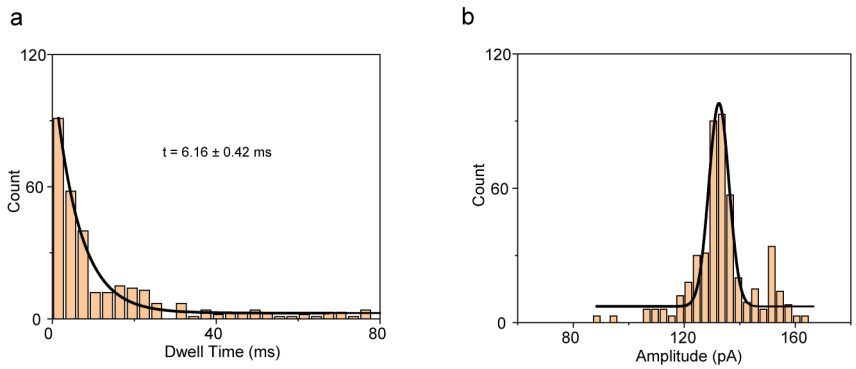


**Fig. S1** The histogram distribution of dwell time (a) and amplitude (b) of blockage events for aptamer $A_1$ in α-HL. Condition: 1.2 mol/L NaCl, 50 mmol/L KCl, 50 mmol/L $MgCl_2$, and 10 mmol/L Tris-HCl at pH 8.5, -160 mV.

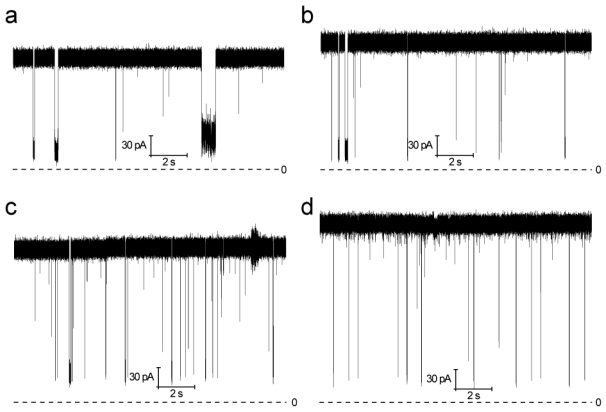


**Fig. S2** Current traces of aptamer $A_1$ at voltage of -120 mV (a), -140 mV (b), -160 mV (c), -180 mV (d).

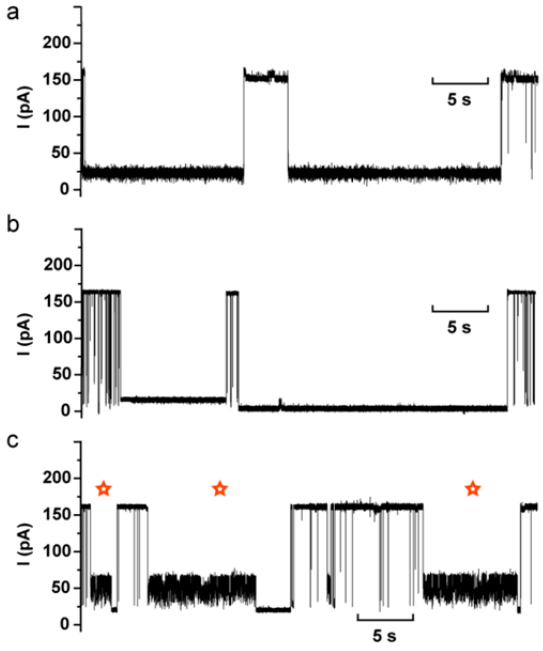

**Fig. S3** The current traces of OTA/aptamer complex in α-HL obtained from (a) aptamer $A_2$/OTA, (b) aptamer $A_3$/OTA, and (c) aptamer $A_1$/OTA, respectively.

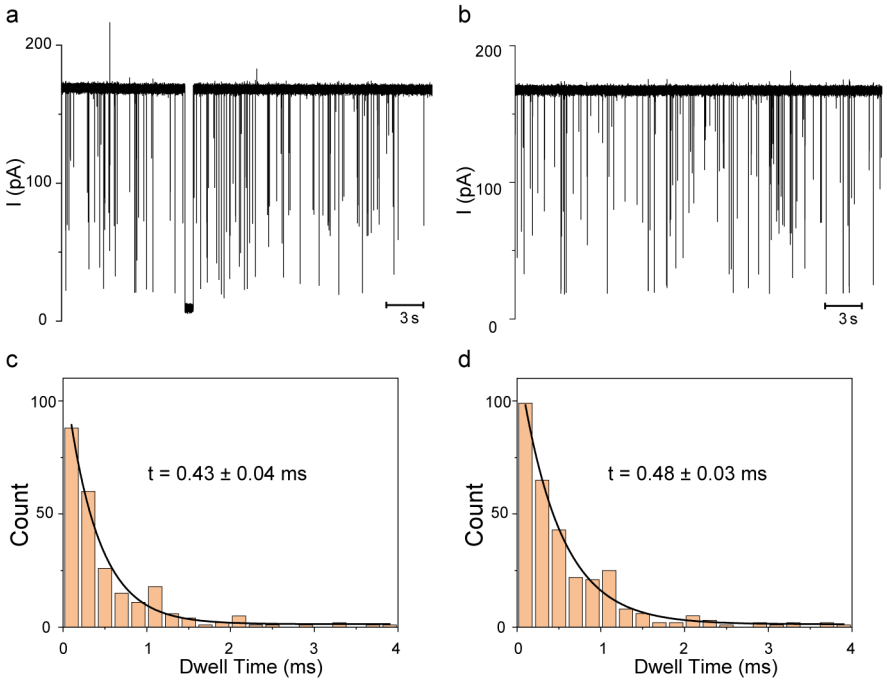


**Fig. S4** The comparison of aptamer $A_1$ and OTA/aptamer $A_1$ complex current blockages in α-HL in the electrolytic buffer of 1 M CsCl and 10 mmol/L Tris-HCl at pH 8.5. (a) The current trace of aptamer $A_1$ (b) The current trace of OTA/aptamer $A_1$ complex. (c) The histogram distribution of dwell time for aptamer $A_1$ with an exponential fitting. (d) The histogram distribution of dwell time for OTA/aptamer $A_1$ complex with an exponential fitting.

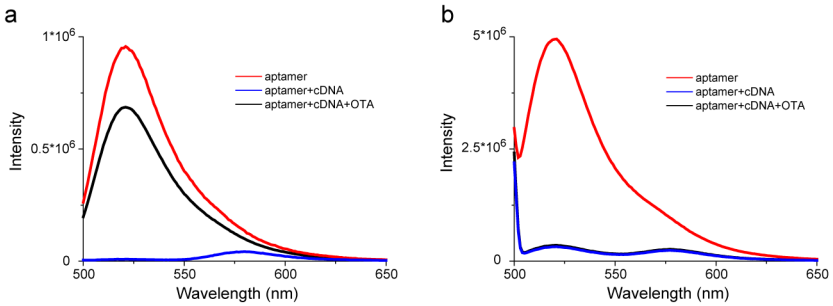


**Fig. S5** The binding demonstration by the fluorescence resonance energy transfer (FRET) assay. (a) FRET assay performed in 1mol/L NaCl, 10 mM $MgCl_2$, 10 mmol Tris-HCl at pH 8.5 (b) FRET assay performed in 1mol/L CsCl, 10 mM $MgCl_2$, 10 mmol Tris-HCl at pH 8.5.