

## **Supporting information**

### **CRISPR/Cas12a-mediated Interfacial Cleaving of Hairpin DNA**

### **Reporter for Electrochemical Nucleic Acids Sensing**

Decai Zhang<sup>a,b,1</sup>, Yurong Yan<sup>c,1</sup>, Haiying Que<sup>c</sup>, Tiantian Yang<sup>a</sup>, Xiaoxue Cheng<sup>a</sup>,  
Shijia Ding<sup>c</sup>, Xiuming Zhang<sup>b,\*</sup>, Wei Cheng<sup>a,\*</sup>

<sup>a</sup> *The Center for Clinical Molecular Medical Detection, The First Affiliated Hospital of Chongqing Medical University, Chongqing 400016, China*

<sup>b</sup> *Department of Laboratory Diagnosis, The Third Affiliated Hospital of Shenzhen University, Shenzhen University, Shenzhen 518000, China*

<sup>c</sup> *Key Laboratory of Clinical Laboratory Diagnostics (Ministry of Education), College of Laboratory Medicine, Chongqing Medical University, Chongqing 400016, China*

---

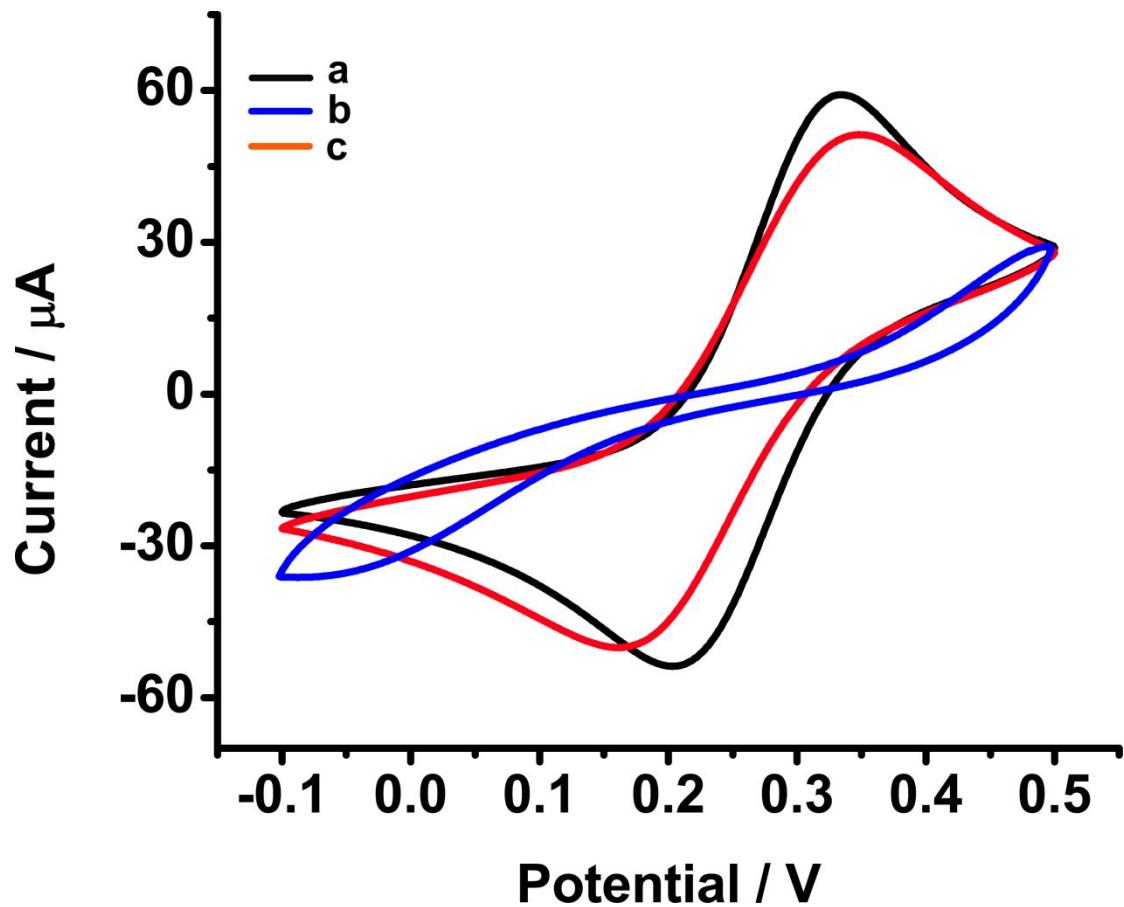
\* Corresponding author. E-mail address: chengwei@hospital.cqmu.edu.cn (W. Cheng) and zxm0760@163.com (X. Zhang).

<sup>1</sup> These authors contributed equally to this work.

**Table S1.** Oligonucleotides used in the present work

Name	*Sequence (5'-3')
crRNA-16	UAAUUUCUACUAAGUGUAGAU <b>UGAAGUAGAU</b> AUGGCAGCAC
crRNA-18	UAAUUUCUACUAAGUGUAGAU <b>ACAAUAUGUGCUUCUACACA</b>
HPV-16_NTS	AGTATTTTATATGTAG <b>TTTCTGAAGTAGATATGGCAGCAC</b> ATAATGACATATTGTA
HPV-16_TS	TACAAATATGTCATTAT <b>GTGCTGCCATATCTACTTCAGAAA</b> CTACATATAAAAATCT
HPV-18_NTS	CCACTCGCAGTACCAA <b>TTTAACAATATGTGCTTCTACACAGTCTCCTGTACCTGGCA</b>
HPV-18_TS	TGCCCAGGTACAGGAGACT <b>GTTAGAACCACATATTGTAAA</b> TTGGTACTGCGAGTGG
hpDNA	SH-(CH <sub>2</sub> ) <sub>6</sub> -TCAGCGTCCCTT <b>ACCA</b> TTTTTTAACTTATT <b>TGGT</b> TTTTTTTT-MB
Linear DNA	SH-(CH <sub>2</sub> ) <sub>6</sub> -TTTTTTTTTTTTTTTTTT-MB
ssDNA	AGTCAGTGTGGAAAATCTCTAGCAGTCAGTGT
FQ-ssDNA	FAM-TTATT-BHQ

\*The spacer sequences of crRNA are in bold blue. The spacer sequences of crRNA templates are in bold green. PAM sequences are in bold red. The stem portions of hpDNA are in bold purple.



**Fig. S1.** CV at bare GE (a), hpDNA immobilized electrode (b), after Cas12a cleavage process (c) in 0.1 M KCl containing 5 mM  $\text{Fe}(\text{CN})_6^{3-/4-}$  (PH 6.1).