Supporting Information

For

Highly Sensitive and Selective Copper (II)-Catalyzed Dual-DNAzyme Colorimetric Biosensor Based on Exonuclease III-Mediated Cyclical Assembly

Baiqiang Zhai [1,2], Kunlun Huang [2], Hongtao Wang [1], Dongmin Su [3,*] and Yuancong Xu [2,4,*]

[1] Henan Railway Food Safety Management Engineering Technology Research Center, Zhengzhou Railway Vocational & Technology College, Zhengzhou 451460, China; zhaibaiqiang@zzrvtc.edu.cn (B.Z.); 10554@zzrvtc.edu.cn (H.W.)
[2] Beijing Laboratory for Food Quality and Safety, College of Food Science and Nutritional Engineering, China Agricultural University, Beijing 100083, China; hkl009@163.com
[3] College of Food and Bioengineering, Zhengzhou University of Light Industry, Zhengzhou 450002, China
[4] Beijing Key Laboratory of Environmental and Viral Oncology, Faculty of Environment and Life, Beijing University of Technology, Beijing 100124, China
[*] Correspondence: dongminsu@haut.edu.cn (D.S.); xuyuancong@bjut.edu.cn (Y.X.); Tel.: +86- 0371-86608028 (D.S.); +86-010-67396139 (Y.X.)

Table S1

Table S1. Oligonucleotides used in this study.

Name	Sequence（5’—3’）
Cu-S	GCTTCTTTCTAATACGGCTCCCT FAM-GCTTCTTTCTAATACGGCTCCCT
Cu-E	AGGGAGCCTGGGCCTCTTTCTTTTTAAGAAAGAAC
CUzyme	GCTTCTTTCTAATACGGCTCCCTCCCAGGGAGCCTGG GCCTCTTTCTTTTTAAGAAAGAAC
G4-DNAzyme	CTGGGAGGGAGGGAGGGAG FAM-CTGGGAGGGAGGGAGGGAG
G4-T	TTTTTCTGGGAGGGAGGGAGGGAG
G4-1	CTGGGAGGGAGGG
G4-T-1	CCCAGAAAAA
G4-2	CTGGGAGGGA
G4-T-2	CCCTCCCAGAAAAA
G4-C	FAM-CCCTCCCTCCCTCCCAG
G4-M	CTGGGAGGGACCCAG

Note: orange markers = active site

Table S2

Table S2. Comparison among previously reported method for the detection of Cu^{2+}.

Target	Method	Element	LOD	Reference
Cu^{2+}	Colorimetric Biosensor	Cu-DNAzyme/G4-DNAzyme	100 nM	[1]
Cu^{2+}	Biosensor (glucose meters)	Cu-DNAzyme/ glucose	1 nM	[2]
Cu^{2+}	Electrochemical Biosensor	Cu-DNAzyme/ $Fe(CN)_6^{3-/4-}$	0.07 nM	[3]
Cu^{2+}	Plasmonic spectroscopy biosensor	Cu-DNAzyme/ AuNPs	0.08 nM	[4]
Cu^{2+}	DNA walker biosensor	Cu-DNAzyme/ magnetic beads	3 nM	[5]
Cu^{2+}	Colorimetric Biosensor	Cu-DNAzyme/G4-DNAzyme	0.16 nM	This work

References

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Figure S1

Figure S1. Hydrolyzing reaction of *Exo* III. Lane 1: FAM-G4-C; Lane 2: Products.

Figure S2

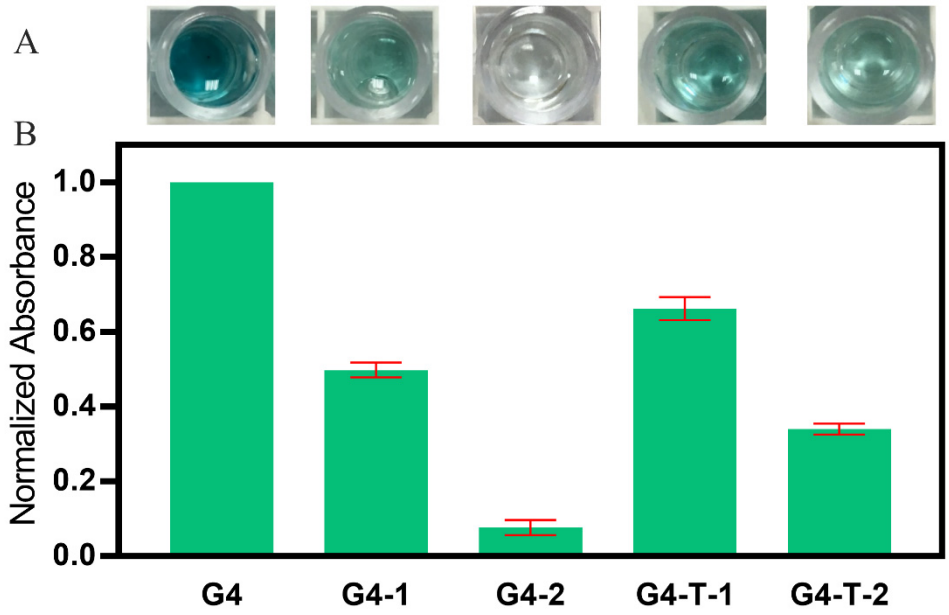

Figure S2. Color reaction. (**A**) Photograph; (**B**) Normalized absorbance.