

## **Supplementary Information**

### **Rapid multiplex detection of 10 foodborne pathogens with an up-converting phosphor technology-based 10-channel lateral flow assay**

Yong Zhao<sup>1,2,†</sup>, Haoran Wang<sup>3,1,†</sup>, Pingping Zhang<sup>1,2</sup>, Chongyun Sun<sup>1,2,4</sup>, Xiaochen Wang<sup>1,2,5</sup>, Xinrui Wang<sup>1,2,6</sup>, Ruifu Yang<sup>1,2</sup>, Chengbin Wang<sup>4,\*</sup>, Lei Zhou<sup>1,2,\*</sup>

<sup>1</sup>Laboratory of Analytical Microbiology, State Key Laboratory of Pathogen and Biosecurity,

Beijing Institute of Microbiology and Epidemiology, Beijing 100071, P. R. China

<sup>2</sup>Beijing Key Laboratory of POCT for Bioemergency and Clinic (No. BZ0329), Beijing

100071, P. R. China

<sup>3</sup>School of Food and Nutrition, Massey University, Palmerston North 4442, New Zealand

<sup>4</sup>Department of Clinical Laboratory, Chinese People's Liberation Army General Hospital, Beijing

100853, P. R. China

<sup>5</sup>College of Animal Science and Technology, Jilin Agricultural University, Changchun 130118, P. R.

China

<sup>6</sup>Institute for Plague Prevention and Control of Hebei Province, Zhangjiakou 075000, P. R. China

<sup>†</sup>YZ and HW contributed equally to this work.

\*Corresponding authors:

Lei Zhou, Tel: +86-10-66948562; E-mail: ammszhoulei@aliyun.com

Chengbin Wang, Tel: +86-10-66937391; E-mail: wangcb301@126.com

**Supplementary Table S1. Sample treatment buffers used in the single-target UPT-LF assays and the TC-UPT-LF assay.**

Treatment buffers	Buffer compositions		
<i>E. coli</i> O157:H17	0.05 M Tris-HCl (pH 8.0)	2.5% defatted milk powder	0.25 M NaCl
<i>S. paratyphi</i> A	0.05 M Tris-HCl (pH 8.0)	2.5% defatted milk powder	0.25% SDS
<i>S. paratyphi</i> B	0.05 M Tris-HCl (pH 8.0)	2.5% defatted milk powder	0.25% SDS
<i>S. paratyphi</i> C	0.05 M Tris-HCl (pH 8.0)	2.5% defatted milk powder	0.25% SDS
<i>S. enteritidis</i>	0.05 M Tris-HCl (pH 8.0)	2.5% defatted milk powder	0.1% SDS
<i>S. typhi</i>	0.05 M Tris-HCl (pH 8.0)	2.5% defatted milk powder	0.5 M NaCl
<i>S. choleraesuis</i>	0.05 M Tris-HCl (pH 8.0)	2.5% defatted milk powder	0.25 M NaCl
<i>V. cholera</i> O1	0.05 M Tris-HCl (pH 8.0)	3.5% defatted milk powder	0.5 M NaCl
<i>V. cholera</i> O139	0.05 M Tris-HCl (pH 8.0)	3.5% defatted milk powder	0.5 M NaCl
<i>V. parahaemolyticus</i>	0.05 M Tris-HCl (pH 8.0)	2.5% defatted milk powder	0.1 % SDS
The universal buffer	0.05 M Tris-HCl (pH 8.0)	2.5% defatted milk powder	0.25% SDS