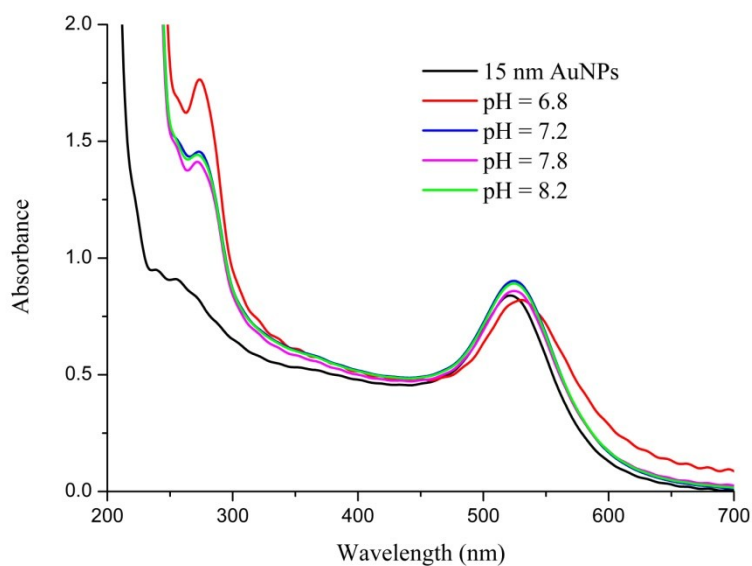# Supplementary Materials

Captions:

Table S1. The UV-Vis spectrum of antibody–AuNP conjugates under different pH value by adding different volume of 0.1 M K_2CO_3.

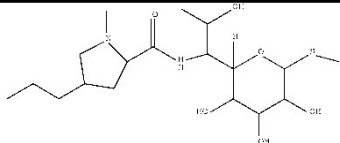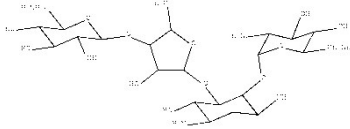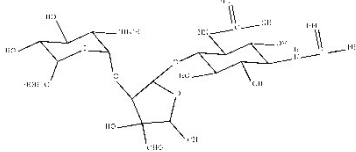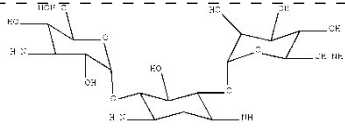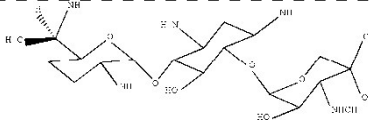**Table S2.** The chemical structures and IC_{50} of ELISA and strip of five compounds

Table S3. The semi-quantitative detection results of developed ICA in milk samples.

Table S4. The quantitative results of the spiked samples in the developed strip

Table S1. The UV-Vis spectrum of antibody–AuNP conjugates under different pH value

Table S2. The chemical structures and IC_{50} of ELISA and strip of five compounds

Compound	Structure	IC_{50} (ng/mL)	
		ELISA	Strip
LIN		0.3	2.5
NEO		0.46	15
STR		0.41	12
KAN		0.07	5
GEN		0.09	5

Table S3. The semi-quantitative detection results of developed ICA in milk samples.

LIN/NEO/STR/KAN/GEN Concentration (ng/mL)	Visual results of ICA (n=20)				
	Test line-1	Test line-2	Test line-3	Test line-4	Test line-5
0/0/0/0/0	+[a]	+	+	+	+
12.5/50/25/25/25	±[b]	±	±	±	±
25/100/50/50/50	— [c]	—	—	—	—
50/200/100/100/100	—	—	—	—	—

[a] The red band is obviously observed.

[b] Light red band is observed.

[c] No band is observed.

Table S4. The quantitative results of the spiked samples in the developed strip

LIN/NEO/STR/KAN/GEN Concentration (ng/mL)	Quantitative results by strip scan reader (n=20)				
	Test line-1	Test line-2	Test line-3	Test line-4	Test line-5
0/0/0/0/0	ND[a]	ND	ND	ND	ND
4/4/6/6/8	3.9±0.11[b]	3.7±0.03	6.1±0.08	5.7±0.21	8.1±0.47
8/8/12/12/24	6.9±0.36	9.2±0.41	13.7±0.05	14.6±1.03	22.5±0.04
12/12/24/24/72	12.3±0.51	13.7±0.26	25.5±0.44	23.9±0.28	74.1±0.36

[a] Not detected.

[b] Mean value ± SD