Supplementary material

Monoclonal antibody production and development of immunochromatographic strip assays for screening of the herbicide bispyribac-sodium in rice

Mengjia Chao[a,b], Xinxin Xu[a,b], Aihong Wu[a,b], Wei Zhou[c], Chuanlai Xu[a,b], Liqiang Liu[a,b*], Lingling Guo[a,b*]

[a]*State Key Laboratory of Food Science and Resources, Jiangnan University,* [b]*International Joint Research Laboratory for Biointerface and Biodetection, and School of Food Science and Technology, Jiangnan University, Wuxi, Jiangsu, 214122, China;* [c]*Jiangsu Product Quality Testing and Inspection Institutee, Nanjing, Jiangsu, 210000, China*

List of contents:

*Email: murel@163.com
*Email: gling0329@jiangnan.edu.cn.

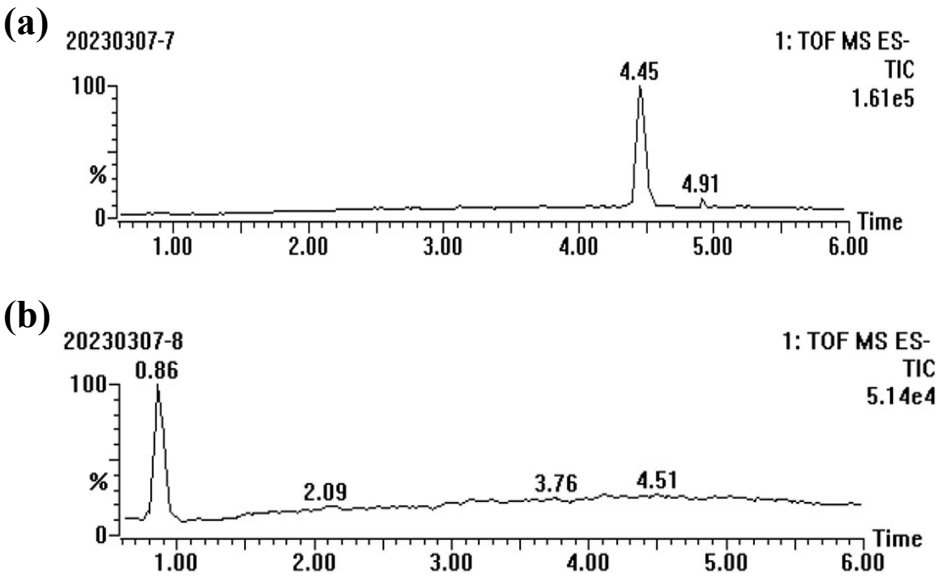


Fig. S1. LC-MS analysis of BIS standard solution (a) and rice samples (b).

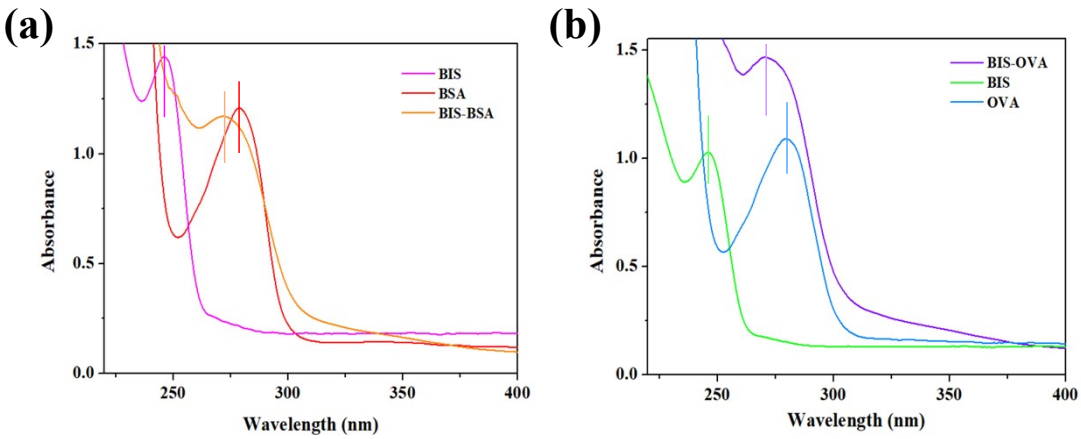


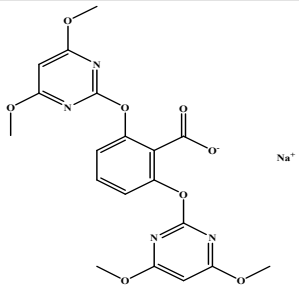
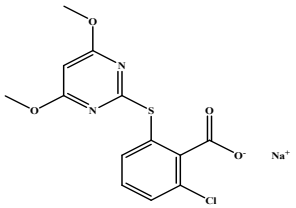
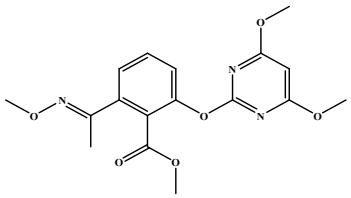
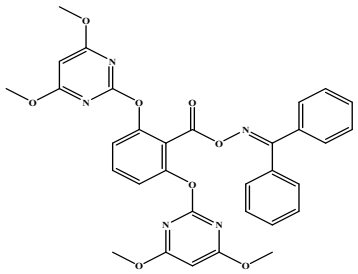
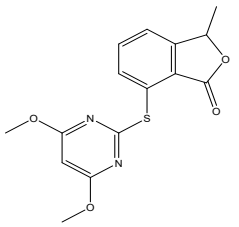
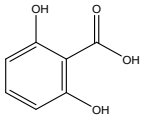
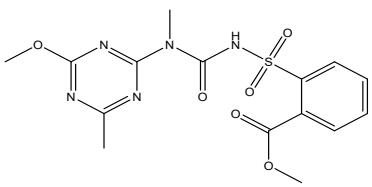
Fig. S2. UV identification of BIS antigens; (a) Confirmation of immunogen (BIS-BSA); (b) Confirmation of coating antigen (BIS-OVA).

25 **Table S1.** Instrument parameters for the analysis of BIS by LC-MS/MS.

Instrument conditions		
Column	BEH C18 column (100 mm ×2.1 mm i.d., 1.8 μm)	
Flow rate	0.3 mL/min	
Column temperature	40℃	
Injection volume	2 μL	
Gradient timetable		
Time (min)	Acetonitrile (%)	0.1% formic acid in ultrapure water (%)
0	5	95
1	5	95
2.5	40	60
18	98	2
23	98	2
23.1	3	97
27	3	97
Mass Parameters	Auxiliary heating gas: 50 psi	
	Auxiliary heating gas: 50 psi	
	Ion Source: Electrospray ion source	
	Polarity: Positive	
	Source Temperature: 350℃	
	Ionspray voltage: 5500 V	

26
27

Table S2. Cross-reactivity of analogues of BIS to the mAb 4B1.

chemicals	structures	CR (IC_{50})
BIS		100% (0.093 ng/mL)
Pyrithiobac sodium		<0.1% (>100 ng/mL)
Pyrimethamine		<0.1% (>100 ng/mL)
Pyribenzoxim		<0.1% (>100 ng/mL)
pyriftalid		<0.1% (>100 ng/mL)
2,6-Dihydroxybenzoic acid		<0.1% (>100 ng/mL)
Tribenuron methyl		<0.1% (>100 ng/mL)