

Supplementary

Microfluidic magnetic droplet-based chemiluminescence enzyme immunoassay for multiplex sepsis biomarkers screening

Jiayue Huang ^{1,2}, Jinbo Li ^{3,4}, Nan Wu ⁵, Xin Yang ^{3,4}, Lexiang Zhang ^{4,*}, Feika Bian
^{1,3,*}, Danhong Hu ^{1,*}

¹ Department of Neurological Rehabilitation, The Second Affiliated Hospital and
Yuying Children's Hospital of Wenzhou Medical University, Wenzhou 325027, P.R.
China

² Department of Laboratory Medicine, The First Affiliated Hospital of Chongqing
Medical University, Chongqing 400016, P.R. China

³ Zhejiang Key Laboratory of Intelligent Cancer Biomarker Discovery and
Translation, the First Affiliated Hospital, Wenzhou Medical University, Wenzhou
325035, P.R. China.

⁴ Oujiang Laboratory (Zhejiang Lab for Regenerative Medicine, Vision and Brain
Health); Wenzhou Institute, University of Chinese Academy of Sciences, Wenzhou,
Zhejiang 325000, P.R. China

⁵ Clinical College of Neurology, Neurosurgery and Neurorehabilitation, Tianjin
Medical University, Tianjin, 300070, China

*Email: zhanglx@ucas.edu.cn; bianfeika@wmu.edu.cn; hudanhong1982@126.com

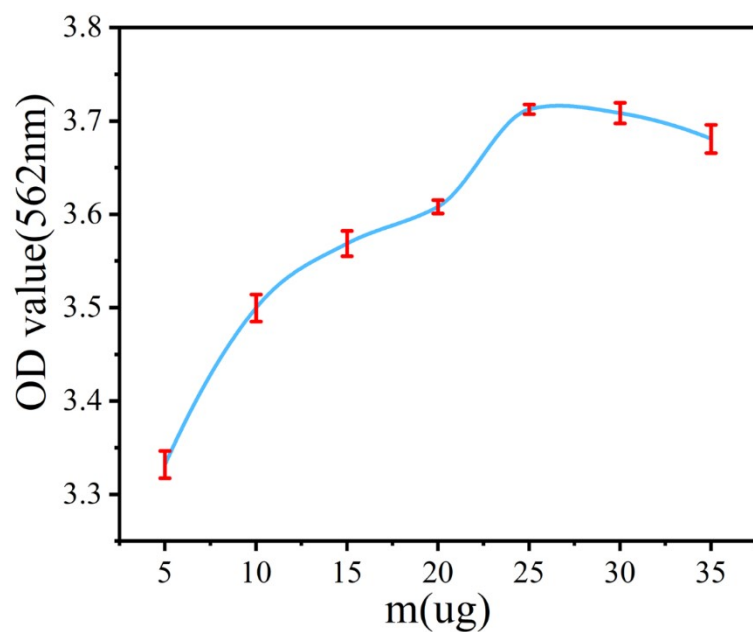


Figure S1. Changes in OD value at 562nm per mg of magnetic fluorescent microsphere-conjugated antibody content.

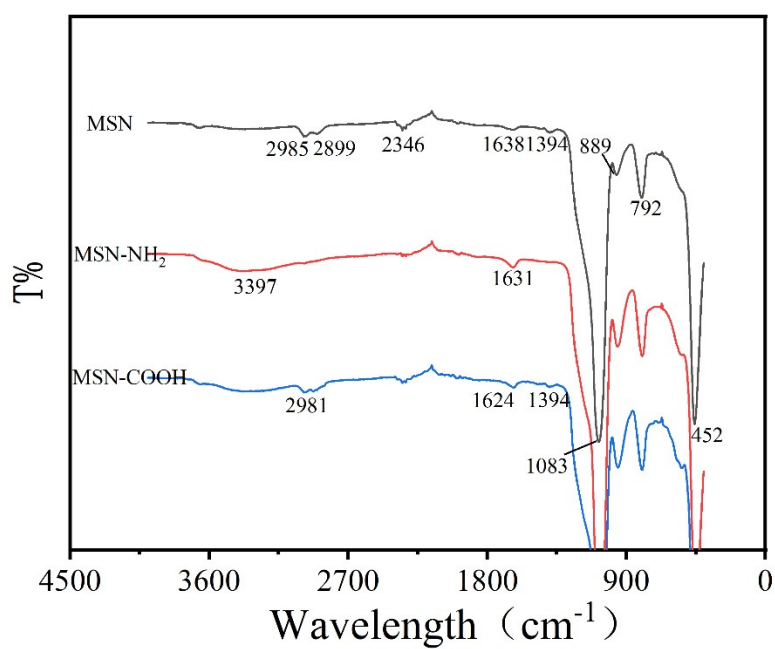


Figure S2. Infrared spectra of MSN modified amino and carboxyl groups.

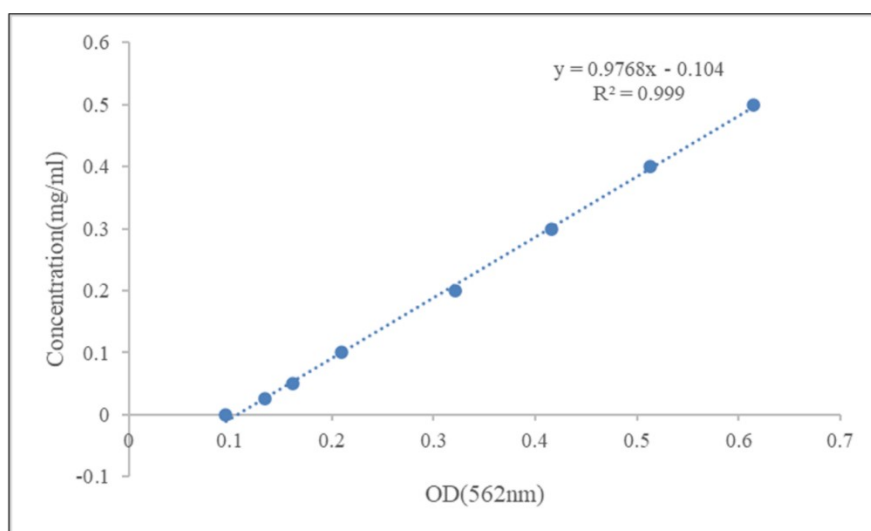


Figure S3. According to the BCA standard curve, the content of MSN coupling enzyme was calculated to be 91.06 μ g/mg.

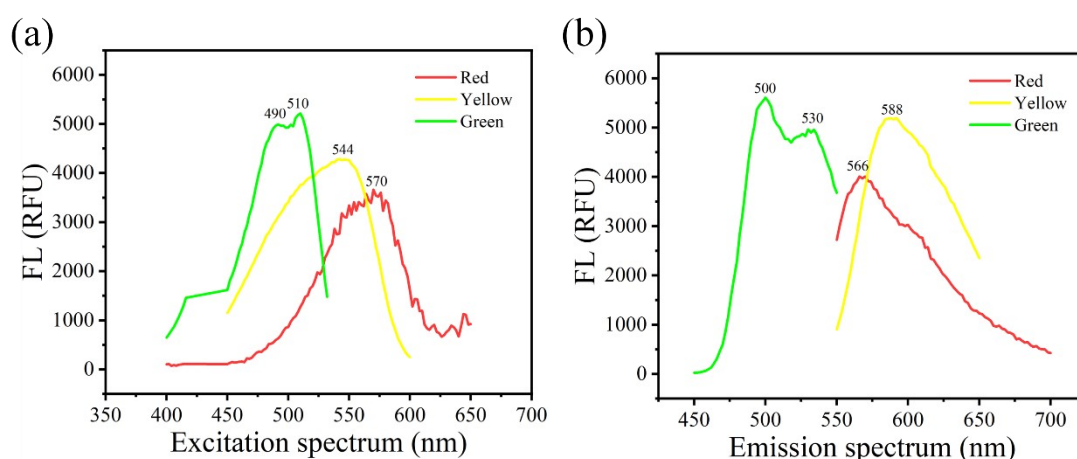


Figure S4. (a) Excitation spectra of three fluorescent microspheres. (b) Emission spectra of three fluorescent microspheres.

Table S1. Comparison of mesoporous silica and silica-immobilized enzyme content.

Particles	Immobilization method	Adsorption (μ g/mg)	Desorption (μ g/mg)
SiO ₂	Physical adsorption	12.69	10.36
SiO ₂	Chemical adsorption	20	0
MSN	Physical adsorption	40.73	36.37

MSN	Chemical adsorption	91.48	0.28
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Table S2. The results of dual-channel dd ELISA for PCT and IL-6 were compared with those of chemiluminescence.

Sample (no.)		Chemiluminescence (pg/mL)	dd ELISA (pg/mL)	Recovery (%)
1	PCT	230	215.4	106.78
	IL-6	25.2	27.4	91.97
2	PCT	60	68.6	87.46
	IL-6	136	128.5	105.84
3	PCT	50	52.3	95.6
	IL-6	12.8	13.5	94.81

Table S3. The results of single-channel dd ELISA for CRP were compared with those of immunoturbidimetry.

Sample (no.)	Immunoturbidimetry (mg/L)	dd ELISA (mg/L)	Recovery (%)
1	9.1	8.2	110.98
2	15.8	14.9	106.04
3	64.2	59.3	108.26