

Fig. S1 The electropolymerization curve for AuNPs.

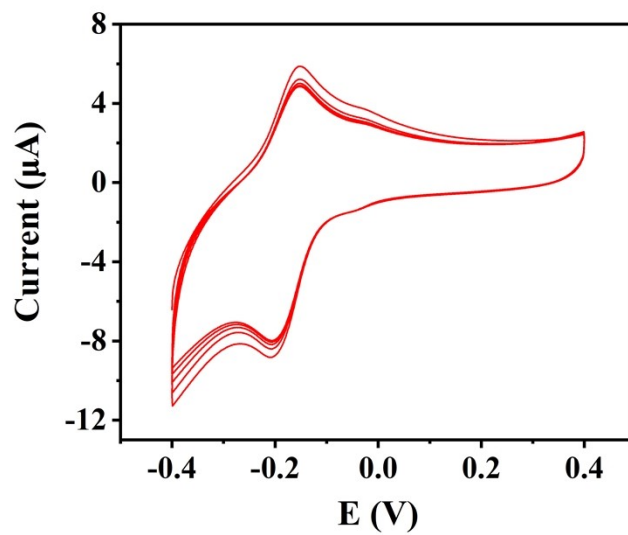


Fig. S2 The electropolymerization curve of TH.

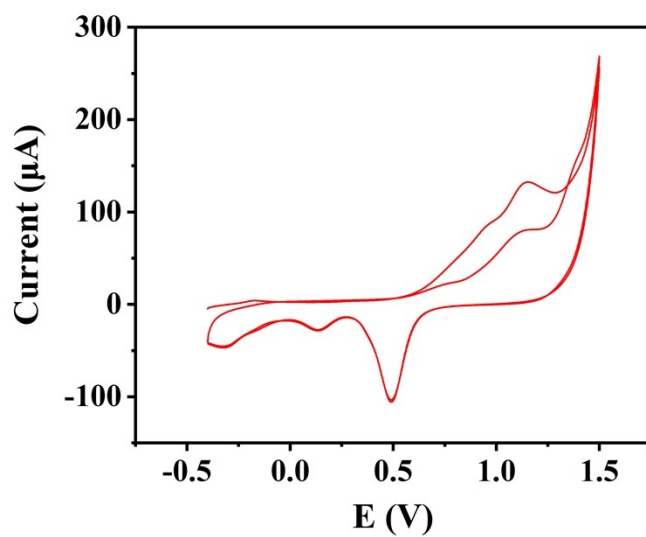


Fig. S3 The electropolymerization curve of EBT.

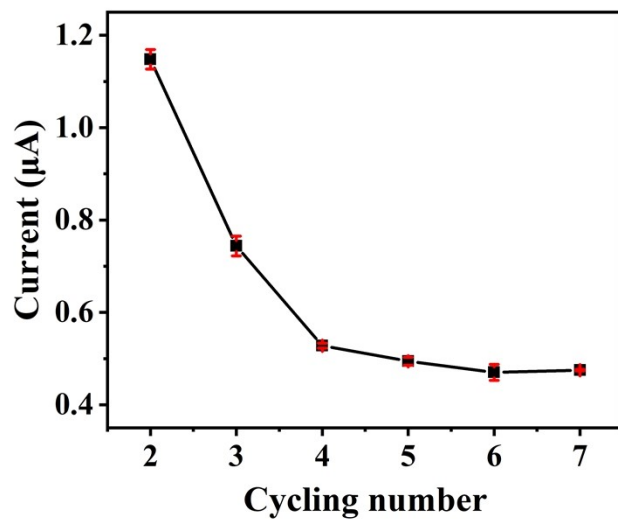


Fig. S4 The cycling number for optimization of electropolymerization EBT.

Table S1. Comparison of the prepared microsensor with other reported MSLN biosensors.

Sensor and method	Linear range	LOD	Reference
MIAS	20 - 110 pg/mL	20 pg/mL	1
PCTE	10 - $10 \times 10^{10}$ ag/mL	/	2
ELISA	0.08 - 5.2 ng/mL	/	3
SPRi	9 - 120 nmol/L	13.62 nmol/L	4
AN microelectrode	0.1 - 1000 ng/mL	10 pg/mL	This work

MIAS: microfluidic immunoassay system. PCTE: gold-coated nanoporous PCTE membrane. Sandwich ELISA: enzyme linked immunosorbent assay, two antibodies (rabbit polyclonal anti-ERC/mesothelin antibody-282, mouse monoclonal antibody 7E7). SPRi: biosensor based on surface plasmon resonance imaging technique