

Supplementary Materials: High Sensitivity Determination of TNF- α for Early Diagnosis of Neonatal Infections with a Novel and Reusable Electrochemical Sensor

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Table S1. Sequences of the designed oligonucleotides.

| Oligonucleotides | Sequences |
|--------------------|---|
| Capture probe (T1) | 5'-SH-TTGTCGCCGACTGCGCCATCC-3' |
| Aptamer (T2) | 5'-TTTTTTTTTTTTTTTTTGGTGGATGGCGCAGTCGGCGACAA-3' |
| Signal probe (T3) | 5'-SH-GGATGGCGCAGT-3' |

Table S2. Comparison of recently reported biosensors.

| Method | Analyte | Line arrange | Detection limit | Reference |
|----------------------------|---------------|------------------------------------|-----------------|-----------|
| Fluorescence aptasensor | TNF- α | 5–100 pg/mL | | [1] |
| Electrochemical aptasensor | TNF- α | 1–10 ³ pg/mL | 1 pg/mL | [2] |
| Electrochemical sensing | TNF- α | 0–60 pg/mL | 2.07 pg/mL | [3] |
| Electrochemical aptasensor | TNF- α | 1–1 \times 10 ⁴ pg/mL | 0.7 pg/mL | This work |

1. Kongsuphol, P.; Ng, H.H.; Pursey, J.P.; Arya, S.K.; Wong, C.C.; Stulz, E.; Park, M.K. EIS-based biosensor for ultra-sensitive detection of TNF- α from non-diluted human serum. *Biosens. Bioelectron.* **2014**, *61*, 274–279.
2. Castro-López, V.; Elizalde, J.; Pacek, M.; Hijona, E.; Bujanda, L. A simple and portable device for the quantification of TNF- α in human plasma by means of on-chip magnetic bead-based proximity ligation assay. *Biosens. Bioelectron.* **2014**, *54*, 499–505.
3. Mazloum-Ardakani, M.; Hosseinzadeh, L.; Taleat, Z. Synthesis and electrocatalytic effect of Ag@Pt core-shell nanoparticles supported on reduced graphene oxide for sensitive and simple label-free electrochemical aptasensor. *Biosens. Bioelectron.* **2015**, *74*, 30–36.



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