Supplementary material

Anti-human albumin monoclonal antibody immobilized on EDC-NHS functionalized carboxylic graphene/AuNPs composite as promising electrochemical HSA immunosensor

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Table S1. A comparison of the electrocatalytic performances of developed immunosensor with other sensors for HSA detection

Table S2. Concentration of albumin in urine samples detected with anti-HSA/EDC+sulfo NHS/Au@CGR-SPCE and recovery experiments

Fig. S1. Specificity of the immunosensor toward glucose, uric acid, paracetamol and bovin-serum albumin. The concentration of HSA is 50 μg/mL and for Glu, UA, Para and BSA is 1 mg/ml

Fig. S2. The reproducibility study of the proposed immunosensors with five electrodes fabricated at the same conditions (50 μg/mL HSA solution)

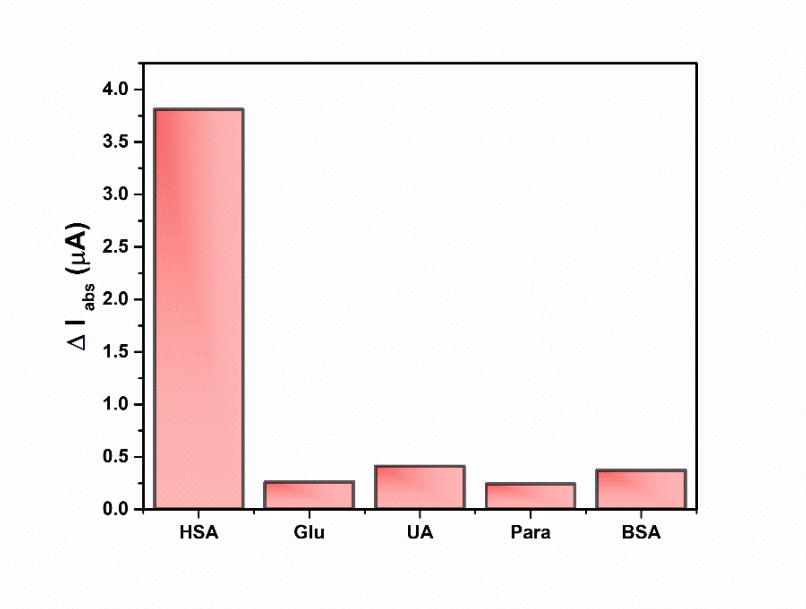
Fig. S3. Screen printed carbon electrode

Table S1. A comparison of the electrocatalytic performances of developed immunosensor with other sensors for HSA detection

Sensor	Linear range (μg/mL)	LOD (μg/mL)	Reference
anti-HSA/EDC+NHS/COOH-P-SPCE	30-300	9.77	Tsai et al. 2016 [13]
PVA-HSA-Ab-AuNP	2.5-200	0.025	Omidfar et al 2011 [37]
ME immunosensor	0.01-100	0.01	Liu et al. 2019 [36]
Ab/GNPs/HDT/GNPs@MW-CILE	0.1–100	0.0154	Arkan et al. 2014 [35]
HSA-imprinted sensor	20 -100	3.7	Stojanovic et al. 2017 [3]
BSA/AHSA/APTES/glass optical immunosensors	0.2-200	0.032	Tu et al. 2012 [38]
anti-HSA/EDC+sulfo NHS/Au@CGR-SPCE	2.5 – 500	1.55	This work

Table S2. Concentration of albumin in urine samples detected with anti-HSA/EDC+sulfo NHS/Au@CGR-SPCE and recovery experiments

	HSA (μg/mL)	Added (μg/mL)	Found (μg/mL)	Recovery (%)
Sample 1	5.21±0.55	10.00	15.95	105
Sample 2	6.80±1.20	10.00	17.51	104
Sample 3	16.65±0.85	10.00	27.92	105



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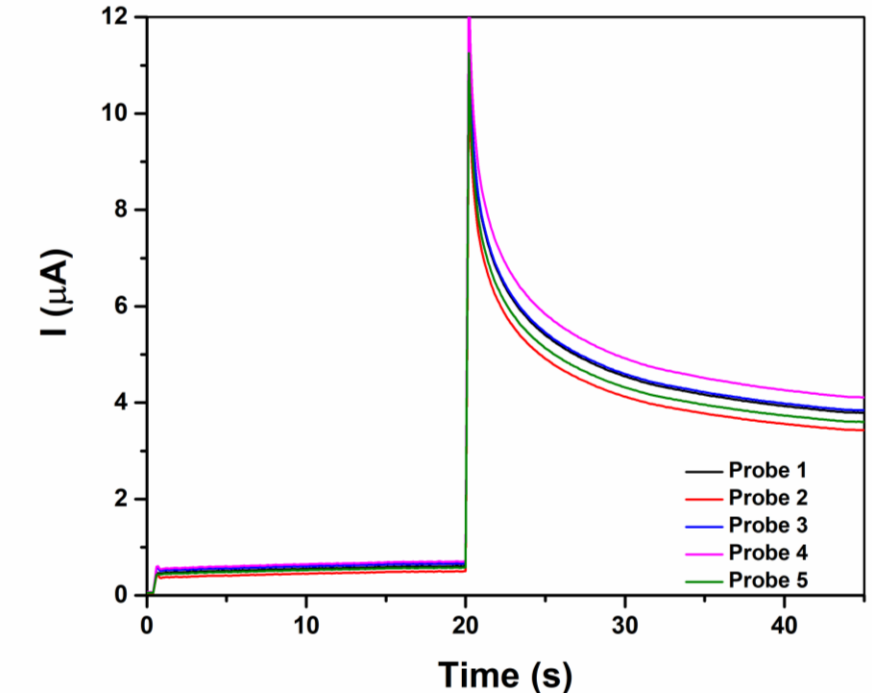

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