Supporting information

Simple, Low-Cost and Sensitive Electrochemical Sensing of Antineoplastic Drug Amethopterin Based on Nanocarbon Black Modified Electrode

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**Figure S1.** The Raman spectrum of CB.
**Figure S2.** The DPV peak current value of 2.0 μM ATP measured in 0.1 M PBS (pH 6.5) (A) at independently fabricated NCB/GCE and (B) with different storage times.
Table S1. Comparison of different modified electrodes for the electrochemical determination of ATP.

<table>
<thead>
<tr>
<th>Modified electrodes</th>
<th>Linear range [μM]</th>
<th>LOD [μM]</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surfactant modified carbon nanotube paste electrode</td>
<td>0.2-7.0</td>
<td>0.035</td>
<td>1</td>
</tr>
<tr>
<td>Functionalized carbon nanotube paste electrodes</td>
<td>0.01-1.5</td>
<td>0.0029</td>
<td>2</td>
</tr>
<tr>
<td>Biopolymers blend films/indium tin oxide</td>
<td>1.5-50.0</td>
<td>0.595</td>
<td>3</td>
</tr>
<tr>
<td>Ce-ZnO/GCE</td>
<td>0.01-500.0</td>
<td>0.0063</td>
<td>4</td>
</tr>
<tr>
<td>N-doped hollow nanocarbon sphere/GCE</td>
<td>0.05-14.0</td>
<td>0.01</td>
<td>5</td>
</tr>
<tr>
<td>Porous graphene-carbon nanotube/GCE</td>
<td>0.7-10.0</td>
<td>0.07</td>
<td>6</td>
</tr>
<tr>
<td>Carbon black/cooper nanoparticles/nafion/GCE</td>
<td>2.2-25.0</td>
<td>0.09</td>
<td>7</td>
</tr>
<tr>
<td>CoFe2O4/reduced graphene oxide/ionic liquid/GCE</td>
<td>0.1-7.5</td>
<td>0.02</td>
<td>8</td>
</tr>
<tr>
<td>NCB/GCE</td>
<td>0.01-10.0</td>
<td>0.004</td>
<td>This work</td>
</tr>
</tbody>
</table>

References


Table S2. The results of recovery analysis for detecting ATP in blood serum sample based on NCB/GCE and their comparison with HPLC technique.

<table>
<thead>
<tr>
<th>Samples</th>
<th>Added [μM]</th>
<th>Found [μM]</th>
<th>Recovery [%]</th>
<th>HPLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>1.0</td>
<td>0.95</td>
<td>95.0</td>
<td>0.95</td>
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<tr>
<td>b</td>
<td>4.0</td>
<td>4.16</td>
<td>104.0</td>
<td>4.10</td>
</tr>
<tr>
<td>c</td>
<td>8.0</td>
<td>7.83</td>
<td>97.88</td>
<td>7.76</td>
</tr>
</tbody>
</table>