

Conducting nanostructure modified electrochemical sensor to detect dopamine in presence of uric acid and ascorbic acid

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In this study, we fabricated pin type micro electrode for sensitive and selective detection of dopamine using electrochemical method. Furthermore, we modified electrode surface with 3D conducting nanostructure for higher sensitivity and selectivity. Modified pin type micro electrode shows higher current density than macro electrode and normal pin type electrode. This modified pin type micro electrode was applied to detect dopamine successfully from 100uM to 1uM with linear relationship in presence of uric acid and ascorbic acid. Therefore, our newly designed micro electrode can be applied to electrochemical sensor for early diagnosis of neuronal disease which concerns with abnormal dopamine level such as depression and Parkinson's disease.

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