

Chronopotentiometric in vivo bioassay by using skin tattoo wearable diagnostic sensing smartphone analyzer

Roma seo

Seoul National University of Science & Technology, Korea.

Abstract:

Analytical in vivo diagnostics are require of the expensive instrumental systems such as highly sensitive x-ray imagination amplifier, sophistic NMR spectrometry, Mass spectroscopy and other separation chromatographic circuits demand. However, in this study, simplified electrochemical in vio and vitro chrono potentiometric bio assay was developed by using skin tattoo diagnostic sensors and wearable smartphone analyzer. Here of in vivo tattoo skin sensors were made by with printing ink painting paste of natural plant fibers. Which ink solutions used as an absorbable muscle stimulation enhancer. Coated film thickness was 0.5 \sim 3 mm paste working, counter and reference electrode, did not interfere with any muscle activity. Which diagnostic scanning potential windows was the redox to -2.0 V $\,\widetilde{}\,$ 2.0 V cyclic anodic and cathodic. The amplification rate was in the range of 1.0×10-3 to 1.0×10-9A used on this conditions, chronopotentiometric redox stripping, cyclic vital current was obtained at real time on the skin muscle tissue, such as pulse rate, respiratory rate, body temperature and other in vivo neuro diagnostics so on. Which optimal variables are available for WiFi tele transmission and be used for remote human smartphone interfaced diagnostic telemetric controls. Results of final para conditions were determined to be capable of more sensitive detection than other common methods.

Biography:

Roma seo and all authors are the program director at biosensor research institute, and performed the voltammetric mathematical statistics of experiments, data interpretation and reviewed the manuscript.



Recent Publications:

- 1. Suw Young Ly, Hwa Jin Heo, Min Jung Kim. 2010. Real time analysis of neuroTransmitters in the brain using a micro electrode system, current neuro vascular research. 7: 1, 32-38.
- Huck Jun Hong and Suw Young Ly. 2019. Voltammetric detection of tetrodotoxin realtime In Vivo of Mouse Organs using DNA immobilized carbon nanotube sensors, Current Analytical Chemistry.15: 5, 567-574
- 3. Suw Young Ly, Young Sam Jung, Myung Hoon Kim, In kwon Han, Woon Won Jung, Hyun Sook Kim. 2004. Determination of Caffeine Using a Simple Graphite Pencil Electrode with Square wave Anodic strip ping voltammetry, microchimica Acta.146: 3, 207-213.

3rd International Congress on Biosensors and Bioelectronics; July 20-21, 2020; Paris, France

Citation: Roma seo; Chronopotentiometric in vivo bioassay by using skin tattoo wearable diagnostic sensing smartphone analyzer; Biosensors 2020; July 20-21, 2020; Paris, France.