Title: Fabrication of an amperometric sarcosine biosensor based on sarcosine oxidase/Chitosan/CuNPs/c-MWCNT/Au electrode for detection of prostate cancer

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Fabrication of an amperometric sarcosine biosensor based on sarcosine oxidase/ Chitosan/CuNPs/c-MWCNT/Au electrode for detection of prostate cancer

Running title: Amperometric determination of sarcosine

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Highlights

- Constructed an improved amperometric sarcosine biosensor based on covalent immobilization of SarOx onto CHIT/CuNPs/c-MWCNT/Au electrode.
- The biosensor showed optimum current within 2 s, at 0.5V, pH 7.0 and temp 35ºC.
- The limit of detection and working range of biosensor were 0.1pM and 0.1- 100 µM respectively.
- Biosensor measured sarcosine in sera, which were significantly higher in prostate cancer patients compared to apparently healthy persons.
- The biosensor was evaluated and compared with earlier sensors.