

Abstract

Validation of a Screening Method Based on a Needle Stochastic Sensor for the Determination of Interleukins 1 β , 6, and 12 in Biological Samples [†]

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Abstract: Interleukins proved to be valuable biomarkers for different diseases. Interleukins 1 β , 6, and 12 can be used as biomarkers for brain cancer diagnosis, and therefore this paper proposed a needle stochastic sensor based on protoporphyrin IX immobilized in nano-diamond paste for fast screening of biological samples, such as whole blood, urine and brain tumoral tissue, for these interleukins. The results obtained using this needle stochastic sensor proved that the interleukins 1 β , 6, and 12 can be reliably determined from whole blood, urine and brain tumoral tissue, with recoveries higher than 96.00% and with relative standard deviations lower than 1.00%. The validation of the method was performed using whole blood and tissue samples collected from the patients confirmed with brain tumor.

Keywords: interleukins; stochastic sensors; method validation

Conflicts of Interest: The author declares no conflict of interest.



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