Detection of Influenza Virus by Impedimetric Biosensor

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Viral influenza as well as other infectious respiratory diseases pose a well-known long-term problem. Viruses, characterized usually as intracellular particles lacking cell structure and surviving in a host cell, represent the main cause of these diseases. The World Health Organization (WHO) estimates that annually 250 - 500 thousand deaths is caused globally by imprecise and insufficient detection of the virus in patients. Early diagnostics of infection requires an efficient and above all fast diagnostic test, showing high sensitivity, simplicity and financial viability. The submitted work deals with the development and modeling of a system allowing a more accurate and faster detection of influenza virus of the genus Influenzavirus A, specifically the subtype H3N2. The goal of our research was to create an ultra-sensitive and highly selective impedimetric biosensor the base of MAb 107/L2 antigen, for the detection of influenza virus H3N2, using screen printed GC electrodes. Next electrochemical methods were used to characterize the virus and describes its properties.

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