

Real-Time Cytotoxicity Assay of Water Extracts *Hibiscus rosa-sinensis*

Nur Husnina Iffah Bakar, Thong Chuan Lee, Ab. Rahim Mohd-Hairul, Raha Ahmad Raus, Dayang Fredalina Basri, Noor Suhana Adzahar*

a Faculty of Industrial Sciences & Technology, Universiti Malaysia Pahang, Lebuhraya Tun Razak, Kuantan, Gambang, Pahang 26300, Malaysia

b Department of Biotechnology Engineering, International Islamic University of Malaysia, Jalan Gombak, Selangor, Malaysia

c Biomedical Sciences Program, Faculty Health and Sciences, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abd Aziz, Kuala Lumpur, 50300, Malaysia

Abstract:

A real-time impedance-based electrochemistry assay was used for assessing the cytotoxicity effect of water extract *Hibiscus Rosa-Sinensis* on Vero cell line. In this study, *H. rosa-sinensis* was extracted by using the water extraction with three different concentration which were 200, 100 and 50 $\mu\text{g}/\text{mL}$. The phytochemical compounds in the extract were analyzed by using the Gas Chromatography-Mass Spectrometry (GC-MS). The GC-MS result showed that the extract contains bioactive compounds such as n-hexadecanoic acid, pentadecanoic acid, phenol, 2,4-bis(1,1-dimethylethyl) and octadecanoic acid that have bioactive properties such as cytotoxic and antioxidant. The cytotoxic effect of the extract on normal cell line was assessed by using Real-Time Cell Analysis (RTCA) instrument. The result showed that there was no significant cytotoxicity effect against Vero cell lines. This result showed that the real-time impedance-based assay can be utilized to monitor changes of the cells and to determine the inhibitory concentration of the extract.

Keywords: Cytotoxicity; Hibiscus; RTCA; Vero Cell

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