DOI: 10.51219/cancerresearchforum.2020.24.NorFazilaCheMat

UNITED RESEARCH FORUM
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International E-Conference on

CANCER SCIENCE AND THERAPY

December 07-08, 2020 I Virtual Webinar

Baicalein-rich fraction from *Oroxylum indicum* exerts anti-cancer properties in cervical cancer cell lines via MAPK-dependent pathway and modulation of cytokines

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Baicalein, a potential anti-cancer compound isolated from *Oroxylum indicum* (*O. indicum*), has been previously tested for its anti-proliferative activities in multiple preliminary studies. The effects of baicalein-rich fraction (BRF) on the proliferation of cervical cancer cell lines and related mechanism were investigated. BRF suppressed cancer cells proliferation and BRF-induced SiHa and HeLa cell death was remarkably enhanced by ERK MAPK inhibitor (PD98059) and inhibited by p38 MAPK inhibitor (SB203580) and JNK MAPK inhibitor (SP600125). By Western blot analysis, BRF has activated JNK by significant upregulation of phosphorylated JNK level and suppressed p-ERK expression after 24 hours incubation period. Yet, no significant changes were detected for the expression of p-p38 MAPK. This suggesting that BRF induced apoptosis in cervical cancer cells predominantly through ERK inhibition and JNK activation. On top of that, apoptosis induction by BRF also enhanced through cytokines modulation. SiHa and HeLa cells treated with BRF have expressed downregulation of IL-6 and upregulation of IL-12 after 24 hours treatment. Thus, the modulation of MAPK signalling, when taken together with IL-6 reduction and IL-12 upregulation, provides a possible mechanism by which BRF exerts its action in cervical cancer cells.

Keywords: Baicalein, anti-cancer, *Oroxylum indicum*, cervical cancer, apoptosis, cytokines

Biography:

Nor Fazila Che Mat is a lecturer at Universiti Sains Malaysia in Kelantan Malaysia. She obtained her undegraduate degreee and MSc degree in Biomedicine from Universiti Kebangsaan Malaysia, and received Ph.D in Immunology & Virology from Queen's University, Ontario, Canada (2011). She have almost 10 years experience in research and university teaching. She teach Virology, Immunology and Genetic subjects. Nor Fazila Che Mat current reseach is on HPV-associated cervical cancer, and determination of natural products as one of the alternative treatment of cervical cancer is the key of my research.

ISBN: 978-1-8382915-4-9