

Abstract

# Continuously Monitoring the Cytotoxicity of API-1, $\alpha$ -Chaconine and $\alpha$ -Solanine on Human Lung Carcinoma A549 <sup>†</sup>

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<sup>†</sup> Presented at the 2nd International Conference on Natural Products for Cancer Prevention and Therapy, Kayseri, Turkey, 8–11 November 2017.

Published: 13 November 2017

**Abstract:** Lung adenocarcinoma is one of the most commonly occurring cancer types, leading to cancer-related deaths worldwide.  $\alpha$ -Chaconine and  $\alpha$ -solanine are the glycoalkaloids found in Potato (*Solanum tuberosum* L.). In this study, we aim to investigate continuously monitoring the cytotoxicity of API-1,  $\alpha$ -chaconine,  $\alpha$ -solanine on human lung carcinoma (A549) and human bronchial epithelial (Beas-2b) cell lines. To investigate the cytotoxic effects of these molecules real time cell analyzer xCELLigence system was used. A549 (12,500 cells/well) and Beas-2b (10,000 cells/well) cells were seeded in E-plate then approximately 24 h post-seeding when the cells were in the log growth phase, the cells were treated with these molecules. Cell viability was observed during 48 h after treatment and IC<sub>50</sub> values have been calculated. According to results, for A549 cells IC<sub>50 $\alpha$ -solanine</sub> were 12.3  $\mu$ M and 11.79  $\mu$ M, and for Beas-2b cells IC<sub>50 $\alpha$ -solanine</sub> were 13.6  $\mu$ M and 13.3  $\mu$ M at 24th and 48th h respectively.  $\alpha$ -Solanine and API-1 (25  $\mu$ M) have cytotoxic effects both cell lines at all concentrations.  $\alpha$ -Chaconine has no cytotoxic and anti-proliferative effect. These molecules and data provide new information for anticancer studies. In further studies, we are planning to improve our research with identifying the action mechanisms of these compounds on A549 and Beas-2b.

**Keywords:** xCELLigence; A549; Beas-2b; API-1;  $\alpha$ -chaconine;  $\alpha$ -solanine

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**Conflicts of Interest:** The authors declare no conflict of interest.



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