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## ELLAGIC ACID MODULATES THE EXPRESSION OF VAGINAL INNATE IMMUNE MEDIATORS

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**Objective:** To investigate the *in vitro* effects of ellagic acid on vaginal innate immunity.

**Methods:** Vaginal epithelial cell culture was performed in the presence or absence of ellagic acid. Expression of human hBD2 and SLPI was determined at both transcriptional and translational levels. In addition, expression of various cytokines and chemokines including IL-2, IL-4, IL-6, IL-8, IL-10, CCL-2, CCL-5, TNF-  $\alpha$ , IL-1 $\beta$ , and IFN- $\gamma$  were investigated using Luminex assay. Cytotoxicity of ellagic was also determined using MTT assay.

Results: The expression of hBD2 mRNA was significantly increased at both transcriptional and translational levels in response to ellagic acid (p<0.05). SLPI mRNA expression was significantly increased in the presence of ellagic acid. The expression of IL-2 was induced in response to ellagic acid in a dose-dependent manner. In contrast, no changes in the expression of other cytokines/chemokines were observed. No cytotoxicity of ellagic acid was noted on vaginal epithelial cells.

**Conclusions:** We conclude that vaginal epithelial cells can recognize a plantderived compound. Innate immune factors produced by vaginal epithelial cells are differentially expressed in response to ellagic acid. Thus, plantderived compounds such as ellagic acid may be useful to be developed as an immunomodulatory agent to improve vaginal health.

## **Biography**

Wipawee Nittayananta has obtained her Doctoral degree from Freie Universitaet Berlin, Germany and completed her PhD from the University of Washington, USA. She has published more than 40 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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