

A Study on The Raw Materials Standardization for Industrialization of *Zanthoxylum piperitum* Using Lava Seawater

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Zanthoxylum piperitum has been used as a spice or various folk remedies since ancient times, and studies on antibacterial, anti-inflammatory and analgesic effects have been reported. In this study, a raw material standardization study was conducted for the industrialization of *Z. piperitum*. First, optimal conditions for drying methods were established for the standardization of raw materials for *Z. piperitum*, and optimal conditions were established through content analysis using quercitrin, an marker compound, by obtaining samples every month. As for the drying method of *Z. piperitum*, it was confirmed that cold air drying was the best. It was analyzed that the marker compound content was highest in July. Next, for functional and toxicity evaluation of *Z. piperitum*, anti-oxidant, anti-inflammatory and immune enhancing efficacy and cytotoxicity were evaluated. Cytotoxicity of *Z. piperitum* was not observed, and it was confirmed that although it had an antioxidant and anti-inflammatory effect, it had no immune-enhancing effects. In addition, a study was conducted on the change in the efficacy of *Z. piperitum* using lava seawater, and as a result of the study, it was confirmed that the efficacy was superior when lava seawater was simultaneously treated. In conclusion, this study suggested the standardization of raw materials through the analysis of the marker compounds and the functional evaluation of *Z. piperitum*, and it can be used as basic data for future industrialization.

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