

Improvement of fractional precipitation process for purification of paclitaxel from plant cell cultures

이충기, 김진현*

공주대학교

(jinhyun@kongju.ac.kr*)

This study investigated changing the methanol/water ratio during fractional precipitation, and adding all the distilled water at room temperature, followed mixing for an additional 10 min. When the methanol/water ratio was 50:50, 40:60, and 30:70(v/v), the paclitaxel yield was 42%, 84.3%, and 92%, respectively. When using a methanol/water ratio of 50:50(v/v), a similar high purity and yield of paclitaxel to the case of storing at a low temperature was achieved when adding all the distilled water at room temperature, followed by additional mixing for 10 min and further mixing at room temperature during the fractional precipitation. Thus, additional mixing after adding all the distilled water is confirmed as important during fractional precipitation. Furthermore, the present results show that a high yield of high-purity paclitaxel is possible with additional mixing at room temperature after adding all the distilled water, which is significantly more economical than the existing method. Acknowledgement: This work was supported by a grant from the National Research Foundation of Korea (NRF) funded by the Korean government (MEST) (No. 2011-0010907).