

## Optimization of adsorbent treatment process for the purification of paclitaxel from plant cell cultures of *Taxus chinensis*

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Biomass-derived tar and waxy compounds have a highly negative effect on the separation and purification of paclitaxel and should be removed prior to final purification. Adsorbent treatment is a simple, efficient method for removal of tar and waxy compounds from plant cell cultures. In this study, we optimized the important process parameters (adsorbent type, solvent type, adsorption time and temperature) of adsorbent treatment to remove the tar and waxy compounds in a pre-purification step. Using the adsorbents, sylopute, active clay, HP-20, and silica, we determined differences in the effectiveness of the adsorbent treatment according to changes in the solvent type, adsorption time and temperature. This effect could also be confirmed by HPLC analysis of the adsorbent after treatment as well as by TGA of the organic matter bonded to the adsorbent. In adsorbent treatment step, the purity seemed to show a small improvement but this treatment had a significant effect on convenient and feasibility of following steps by removing of tar and waxy compounds.