Effect of Cell Culture on 18S rRNA Gene Sequences in the Cultural Course of *Taxus chinensis* Cells

Fu Xiang\textsuperscript{a}, Long J. Yu\textsuperscript{a,\ast}, Wu Chen\textsuperscript{b}, and Zhi Liu\textsuperscript{a}

\textsuperscript{a} College of Life Science and Technology, Huazhong University of Science and Technology, Wuhan 430074, China. E-mail: xiangfu@smail.hust.edu.cn

\textsuperscript{b} Wuhan University of Science and Engineering, Wuhan 430074, China

\textsuperscript{\ast} Author for correspondence and reprint requests


Cell culture is an effective technology for taxol production. This paper discusses the effect of *Taxus* cell cultures on the 18S rRNA gene sequences based on the phylogenetic analysis of cultured *T. chinensis* cells and related species. The phylogenetic tree is reconstructed using the maximum parsimony method and the relative rate test to test the hypothesis of a molecular clock. The phylogenetic analysis indicates that cell culture changes the phylogenetic position of cultured *T. chinensis* cells. More than that, the 18S rRNA gene of cultured *T. chinensis* cells has a faster rate of substitution than that of *T. chinensis*. With *T. media* as reference, the divergence time of the cultured *T. chinensis* cells is 7 Ma (million years) more than that of the *T. chinensis* cells based on the 18S rRNA gene sequences.

\textit{Key words:} 18S rRNA Gene, Cultured Cells, *Taxus chinensis*