

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

Fu Xiang<sup>a</sup>, Long J. Yu<sup>a,\*</sup>, Wu Chen<sup>b</sup>, and Zhi Liu<sup>a</sup>

<sup>a</sup> College of Life Science and Technology, Huazhong University of Science and Technology, Wuhan 430074, China. E-mail: xiangfu@smail.hust.edu.cn

<sup>b</sup> Wuhan University of Science and Engineering, Wuhan 430074, China

\* Author for correspondence and reprint requests

Z. Naturforsch. **63c**, 127–132 (2008); received July 5/August 14, 2007

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.

**Key words:** 18S rRNA Gene, Cultured Cells, *Taxus chinensis*