

Using the Sequence of rbcL Gene to Discriminate Taxilli Ramulus from Its Counterfeits

KANG-TSU LU, YUNG-CHUAN HSIEH, HUI-CHUN LEE, TSAI-YU WEN, YI-CHU LIU
AND CHI-FANG LO

Division of Research and Analysis

ABSTRACT

rbcL (ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit) is the important component of chloroplast for photosynthesis. The gene of rbcL is a useful DNA marker for taxonomy and DNA barcode. In this study, we discriminated Taxilli Ramulus from its counterfeits by the sequences of rbcL gene. Taxilli Ramulus, the dried stems with leaves of *Taxillus chinensis*, is widely used in Chinese medicine. Taxilli Ramulus is easy confused with the dried stems of *T. parasiticus*, *Viscum coloratum*, *V. liquidambaricolum* and *Morus indica* by appearance. We established a database of rbcL sequence of *Taxillus chinensis* and its counterfeits with the sequences of authentic raw materials and the data from GenBank. Our samples were purchased from local traditional Chinese (herbal) pharmacies and markets. The extracted DNA of samples was amplified by PCR with universal primers for rbcL gene, and then analyzed on an auto-sequencer. The revealed sequences were compared with the database. Twelve out of 27 samples were identified as *T. chinensis*, 11 *T. parasiticus*, 2 *V. coloratum* and 2 *M. indica*.

Key words: rbcL, Taxilli Ramulus, DNA sequencing

