

论文

枫斗类石斛rDNA ITS区的全序列数据库及其序列分析鉴别

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摘要:

目的建立枫斗类石斛的rDNA ITS区碱基全序列数据库,利用该数据库对枫斗类石斛待检种进行准确鉴别。方法对枫斗类石斛的rDNA ITS区进行了PCR扩增、测序,运用CLUSTRAL,MEGA等软件以及枫斗类石斛rDNA ITS区全序列数据库对待检种rDNA ITS区进行序列分析鉴别。结果建立了21种枫斗类石斛的rDNA ITS区全序列数据库,枫斗类石斛在该区的种间差异显著而稳定,转换和颠换总数为11~122,变异位点数为341,信息位点数为195。与外类群植物云南石仙桃间的差异较大,转换和颠换总数为131~161。枫斗类石斛居群间的差异较小,转换和颠换总数为0~6。结论利用枫斗类石斛的全序列数据库及遗传分析软件,通过对待检种rDNA ITS区进行序列测定,可以成功鉴别属于数据库中枫斗类石斛的待检种。

关键词: 石斛属 枫斗类石斛 rDNA ITS区全序列 DNA分子鉴别

DATABASE ESTABLISHMENT OF THE WHOLE rDNA ITS REGION OF *Dendrobium* SPECIES OF "FENGDOU" AND AUTHENTICATION BY ANALYSIS OF THEIR SEQUENCES

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Abstract:

AIMTo establish the whole rDNA ITS region sequence database of various *Dendrobium* species of "Fengdou" and to authenticate exactly the inspected species of "Fengdou". METHODSThe rDNA ITS regions of various *Dendrobium* species of "Fengdou" were amplified and sequenced. The database of their rDNA ITS regions was established in order to authenticate the inspected species by means of the softwares of CLUSTRAL and MEGA which were used to analyze the rDNA ITS region. RESULTSA database of the rDNA ITS sequences of 21 species of *Dendrobium* has been established. The notable and stable differences of the interspecies of the rDNA ITS regions have been demonstrated. The numbers of transitions and transversions among 21 species are 11~122. The variable sites are 341 while the informative sites are 195. The ITS sequence differences between the outgroup species (*Pholidota yunnanensis*) and species of "Fengdou" are obvious. The numbers of transitions and transversions are 131~161. The population differences of the rDNA ITS region of various species of "Fengdou" are very small (0~6). CONCLUSIONOn the basis of the database of various *Dendrobium* species of "Fengdou" and two genetics software, the botanical origin of the inspected species of "Fengdou" has been authenticated successfully by sequencing the rDNA ITS regions.

Keywords: *Dendrobium* species of "Fengdou" the whole sequence of rDNA ITS region DNA molecular authentication *Dendrobium*

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