

作物遗传育种·生物技术

云南特有茶组植物遗传多样性的ISSR研究*

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摘要 以云南茶组植物为材料,利用ISSR技术对云南茶组植物进行了遗传多样性分析。从所筛选出的12个引物对25份供试材料进行ISSR扩增反应后,共产生141条谱带,其中多态性谱带为139条,其多态条带比率(PPB)高达98.5%,表明25份材料具有丰富的多态性。并根据遗传距离利用UPGMA构建了云南茶组植物亲缘关系树状聚类图。25个材料可分为6个类群(取值水平GD=0.378),20个茶组植物分为2个类群。从DNA分子水平探讨了云南茶组植物的遗传多样性,突出了种间的遗传差异,种间的遗传距离为0.151~0.580,表明25份材料间遗传基础较宽。PCA分析与聚类分析结果基本一致。结果显示,ISSR作为一种信息量高、重演性好的分子标记,应用于茶树品种鉴别和亲缘关系分析是非常有效的。

关键词 [云南](#); [特有茶组植物](#); [ISSR](#); [遗传多样性](#)

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Study on Genetic Diversity of Peculiar Sect.Thea (L.) Dye in Yunnan by I SSR Markers

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Abstract

ISSR technique was used to analyze genetic diversity of Peculiar Sect.Thea (L.) Dye in Yunnan.25 materials from tea germplasm bed of Tea Research Institue of Yunnan Academy of Agriculture Science were tested with polymorphic ISSR markers using 12 arbitrary 10-mer primers selected from 40 sangon primers. The level of polymorphism of the cultivars was extremely high. Among a total of 141 bands observed, 139 bands were polymorphic in 25 cultivars tested, PPB was 98.5%, and only 2 bands did not reveal polymorphism. This showed Yunnan tea section plants abounded in genetic diversity. A dendrogram showing genetic relationships between them was constructed by an unweighted pair-group method with arithmetical averages (UPGMA) based on genetic distances. According to the dendrogram showing genetic relationships, 25 materials could be divided into 6 groups when GS was 0.378 and 20 tea plants could be divided into 2 groups.The cultivars were classified based on the level of genetic DNA, especially their genetic variance.Genetic distances between each of cultivars varied from 0.151 to 0.580. The figure showed that tea trees in Yunnan took possession of much high genetic diversity on DNA molecular level. Both UPGMA and PCA (principal component analysis) showed similar genetic relationship.The results indicated that ISSR was a useful tool for molecular identification and relationship analysis of tea germplasms.

Key words [Yunnan](#) [peculiar Sect. Thea \(L.\)Dyer](#) [ISSR](#) [Genetic diversity](#)

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