生物技术·植物遗传育种

22份柑桔资源的ISSR分析

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摘要　　对富民枳(*Poncirus polyandra* S.Q. Ding et al.)、枳［*Poncirus trifoliata* (L.) Raf.］、枳橙(*Poncirus trifoliata*×*Citrus sinensis*)和甜橙［*Citrus sinenses* (L.) Osbeck］等22份柑桔资源进行了ISSR分析,并对所得结果进行了讨论。14个引物对22个材料PCR扩增得243条谱带,从遗传距离、多态性比较和聚类结果看:各材料之间具有不同的遗传距离,以D=0.25,将22份供试材料划分为6个类群类:第Ⅰ类群为甜橙(雪柑和小叶先锋橙);第Ⅱ类群为卡里佐(肯特桔);第Ⅲ类群为杂种枳;第Ⅳ类群为富民枳;第Ⅴ类群为枳橙(C35和枳橙);第Ⅵ类群为枳的不同类型。从分类（亲缘)关系看:富民枳与枳橙(0.407)的亲缘关系更近,而与甜橙(0.414)、枳(0.415)的亲缘关系稍远一些,与杂种枳(0.424)之间的亲缘关系更远。采用ISSR技术可作为品种鉴别、亲缘关系和分类的手段之一。

关键词　　柑桔　ISSR　分类关系　聚类组

分类号　S 666.1.02

The ISSR Analysis of 22 Citrus Resources

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Abstract

　Twenty two Citrus resources, including Fumin Trifoliate Orange (*Poncirus polyandra* S.Q. Ding et al), Trifoliate Orange ［*Poncirus trifoliata* (L.) Raf.］, Citrange (*Poncirus trifoliata* × *Citrus sinensis*) and Sweet Orange ［*Citrus sinenses* (L.)Osbeck］ have been analysed by using Inter-Simple Sequence Repeat (ISSR), and the results from ISSR marker have been discussed. 243 pattern bands results from 22 materials 　ISSR-PCR by amplifying 14 primers. The results from the linkage distance, comparison of polymorphic and clustering analysis showed that each material has the different linkage distance and they have been divided into 6 cluster groups if the distance equal to 0.25. Sweet orange ［*Citrus sinensis* (L.) Osbeck, Xuegan, Small leaf pioneer orange］ are divided into one groups (Clustering Ⅰ). Carrizo Citrange is divided alone(Clustering Ⅱ). Hybrid of Trifoliate Orange (*Poncirus trifoliata* × *Citrus limonia*) is divided alone (Clustering Ⅲ). Fumin Trifoliate Orange (*Poncirus polyandra* S.Q. Dinget al.) are divided into one groups (Clustering Ⅳ). Citrange (*Poncirus trifoliata* × *Citrus sinensis*, Citrange and C35) are divided into one groups (Clustering Ⅴ). The different types of Trifoliate Orange ［*Poncirus trifoliata* (L.)Raf.］ are divided into one groups (Clustering Ⅵ). According to the taxonomic relationship, it is concluded that the taxonomic relationship between Fumin Trifoliate Orange and Citrange is nearer.But it is farther between Fumin Trifoliate Orange and Sweet orange, and Trifoliate Orange. ISSR-PCR technology can be used in germplasm or cultivar identification, phylogenetic analysis and classification in citrus.

Key words　　citrus　ISSR　taxonomic relationship　cluster groups

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