专论与综述

水稻单核苷酸多态性及其应用现状

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摘要　单核苷酸多态性（single nucleotide polymorphisms, SNPs）在水稻中数量多，分布密度高，遗传稳定性高。水稻SNPs的发现方法主要有对样本DNA的PCR产物直接测序、从SSR区段检测SNPs和从基因组序列直接搜索等。目前已有多种基因分型技术运用到了水稻SNPs检测，SNPs检测的高度自动化使水稻SNPs基因分型非常方便。单核苷酸多态性在水稻遗传图谱的构建、基因克隆和功能基因组学研究、标记辅助选择育种、遗传资源分类及物种进化等方面的应用具有巨大潜力。

关键词　单核苷酸多态性　水稻　基因分型　遗传育种
分类号　Q943

扩展功能

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Single Nucleotide Polymorphism (SNP) and Its Application in Rice

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Abstract

Single nucleotide polymorphisms (SNPs) distribute numerously and high-density throughout the rice genome and are stable in genetics. Several routes have been used for discover SNPs in rice such as sequencing directly to the PCR products of the DNA samples, screening SNPs in the SSR areas and search for SNPs through the rice genome sequences . several genotyping systems have been developed to identify SNPs in the rice genome. High automation in the SNPs identification has become a very convenient operation by the automatized systems. SNP has showed the huge potential in the establishing in the rice genetic maps, genes cloning and functional genomics, MAS in rice breeding and studying in classification and evolution of germplasm.

Key words single nucleotide polymorphism rice genotyping genetics and breeding

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