

生物技术·遗传育种

## 地方鸡种微卫星DNA指纹图谱建立与遗传多样性研究\*

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**摘要** 利用20个微卫星标记对我国19个地方鸡种保种群进行了遗传检测, 构建了各个品种的微卫星DNA指纹图谱, 通过计算各群体的等位基因频率、平均基因杂合度、平均多态信息含量及各群体间的遗传距离, 并用类平均法进行聚类分析, 分析了所研究鸡种的遗传关系。研究表明: 20个微卫星标记在19个地方鸡种保种群共检测到184个等位基因, 平均为9.2个, 基因频率分布在0.013~0.838之间。19个地方鸡种平均杂合度在0.5824~0.7432之间。其中藏鸡最高, 白耳鸡最低。20个微卫星座位的平均多态信息含量在0.5238~0.7023之间, 均大于0.5, 表现为高度多态性; 19个鸡种聚为6类。各鸡种的遗传距离及聚类结果与所保存的地方鸡种的地理分布、现实状况是相吻合的, 从而表明用该方法分析品种间的亲缘关系是可行的。

**关键词** [地方鸡种](#); [微卫星](#); [DNA指纹](#); [遗传多样性](#)

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## Construction of Microsatellite DNA Fingerprinting and Analysis of Genetic Diversity of Native Chicken Breeds

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### Abstract

Microsatellite DNA Fingerprinting of 19 Native Chicken Breeds were constructed, and the genetic diversity (allele frequency, mean heterozygosity, mean polymorphic information content(PIC), and Nei genetic distances) of 19 them was analyzed by 20 microsatellite markers. The results showed that 184 alleles were detected of 20 microsatellite loci in 19 native chicken breeds, the average number of alleles of each loci was 9.2, the range of heterozygosity was 0.5824~0.7432, the heterozygosity of Zang chicken was the highest (0.7432), and that of Beier chicken was the lowest(0.5824). The mean polymorphism information content of 20 microsatellite was 0.5238~0.7023. which is higher than 0.5 and highly polymorphic. By the results of UPGMA tree, six groups were formed from 19 chicken breeds. The results of microsatellite fingerprinting were in accordance with 19 populations' geographical distribution and actual status of 19 chickens. The results of cluster showed that microsatellite fingerpring was feasible to analysize genetic relationships among Chinese native chicken breeds.

**Key words** [native chicken breed](#) [microsatellite](#) [DNA fingerprinting](#) [genetic diversity](#)

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