

# 中国三种实验用小型猪线粒体DNAD-loop多态性分析 Analysis of the Polymorphism of mtDNA D-loop in Three Breeds of Laboratory Miniature Pig in China

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摘要 分析中国三种实验用小型猪线粒体DNA (mtDNA) D-loop的多态性, 建立各品种品系猪的遗传标记, 为各品种、品系猪的鉴别提供依据。应用PCR技术分别对西双版纳近交系小耳猪、广西巴马小型猪、贵州小型香猪和长白猪的血液总DNA样品中mtDNAD-loop进行扩增, 用23种限制性内切酶消化, 观察其酶切多态。PCR扩增其mtDNAD-loop5'端227bp高变区域, 应用PCR-SSCP和PCR直接测序分析, 观察其单链构象多态和序列多态。结果显示: 三种小型猪之间未见酶切长度多态、单链构象多态和序列多态。与长白猪之间表现出单链构象多态和序列多态。本研究认为: 三种实验用小型猪之间mtDNA多态性贫乏, 证明其亲缘关系很近, 在母系起源和进化上有一致性, 应用PCR RFLP、PCR SSCP和PCR直接测序分析, 尚不能作为三种实验用小型猪品种、品系鉴定的依据, 但与长白猪等欧系猪比较有一定差异。

Abstract: the present study is to analyze the polymorphism of the mtDNA D-loop in three breeds of laboratory miniature pigs in China, and to establish its cytoplasmic DNA markers to distinguish among them. The polymorphism of mtDNA D-loop and its 5'-end high variable regions were detected by PCR-RFLP, PCR-SSCP and PCR-direct sequencing on Xishuangbanna Small-ear inbred pig, Guizhou miniature Xiang pig, Guangxi Bama miniature pig and Landrace. There was no polymorphism obtained among or within three breeds of Chinese laboratory miniature pigs besides Landrace. It is concluded that the polymorphism of mtDNA D-loop within the three breeds of Chinese laboratory miniature pigs is poor, These methods cannot be used to distinguish among them, but it can be used to distinguish them from Landrace.

关键词 [小型猪](#) [聚合酶链反应](#) [线粒体DNA控制区](#) [多态性](#) Keywords [Miniature pig](#) [PCR](#) [mtDNA D-loop](#) [polymorphism](#)

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## Abstract

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