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研究报告

中间球海胆、光棘球海胆及杂交F1代(中间球海胆♀×光棘球海胆♂)群体遗传多样性AFLP分析

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摘要

应用AFLP技术对中间球海胆、光棘球海胆及杂交F1代(中间球海胆♀×光棘球海胆♂)群体的遗传多样性进行了分析。结果表明, 4对引物共扩增得到272个位点, 其中269个多态位点, 总的多态位点比例为98.89%。3个群体的香农多样性指数分别为: 0.2331 ± 0.1273、0.2005 ± 0.1385和0.2625 ± 0.1067。群体内遗传相似度分别为: 0.6876 ± 0.0523、0.6501 ± 0.0548和0.6552 ± 0.0553。分子方差分析(AMOVA)结果表明, 变异来源有25.39%来自群体间, 有74.61%来自群体内, 群体内的遗传多样性比较丰富。尽管杂交海胆在表型上可以明显分成两种类型, 但是通过AFLP统计的遗传距离进行的个体聚类却随机聚在一起, 不能分成两个群体。

关键词 光棘球海胆 中间球海胆 杂交 AFLP
分类号

AFLP analysis in populations of Strongylocentrotus intermedius, S. nudus and hybrids (S. intermedius × S. nudus)

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Abstract

<P>AFLP analysis of genetic diversity in the three populations of sea urchin <EM>Strongylocentrotus intermedius</EM> (IN), <EM>S.</EM> <EM>nudus </EM> (NU) and F1 progeny (IN×NU) was carried out in this paper. In total, 272 loci were amplified with 4 primer pairs, of which 269 were polymorphic and the percentage of polymorphic loci was 98.89%. The Shannon diversity index for <EM>S. intermedius, S. nudus,</EM> and their hybrid populations was 0.2331±0.1273, 0.2005±0.1385, and 0.2625±0.1067, respectively. The genetic similarity within populations was 0.6876±0.0523, 0.6501±0.0548, and 0.6552±0.0553, respectively. AMOVA analysis indicated that 25.39% of variance was among populations and 74.61% of variance was within populations. This suggested the rich genetic diversity level within populations. Although the hybrids can be classified into two types by apparent characters, they were clustered each other by UPGMA method according to their genetic distances.</P>

Key words Strongylocentrotus nudus S. intermedius hybrids AFLP

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