

研究报告

核糖体蛋白RPL15 cDNA序列在真骨鱼类系统进化研究中的价值

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摘要

应用RT-PCR, 从真骨总目 (Teleostei) 5目15种鱼类中首次克隆了核糖体大亚基蛋白L15 (RPL15, ribosomal protein L15) 的完整cDNA序列。以海鲢形亚组 (Elopomorpha) 的鳗鲡作为外类群, 对这些真骨鱼类的核糖体蛋白L15 cDNA序列进行了系统发育分析, 结果表明: (1) RPL15基因在真骨鱼类等许多真核生物进化中高度保守; (2) 系统树中各物种之间的关系与形态分类一致。RPL15编码区适合于真骨鱼类目以上分类阶元的分子系统学研究。

关键词 [核糖体蛋白L15 \(RPL15\)](#) [分子系统学](#) [真骨鱼类](#)

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The Study of Ribosomal Protein L15 cDNA Sequences as a Molecular Marker in the Teleostei Phylogenetic Analysis

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Abstract

In this study, the full-length cDNAs of RPL15 (ribosomal protein L15) gene were cloned and sequenced from fifteen fishes of five orders under Teleostei. The complete ORF sequences were analyzed for phylogenetic reconstruction for the first time to evaluate the potential of RPL15 gene as a novel marker in resolving teleostean phylogenetic relationships. The resultant NJ, MP and ML trees with *Anguilla japonica* as the outgroup were generally resolved and largely congruent with the morphology-based tree though some incongruities were observed. The incongruities were then analyzed for some explanations. The results suggested that: (1) RPL15 gene was highly conserved during eukaryotic evolution; (2) RPL15 ORF might be a good phylogenetic marker for resolving teleostean relationships. It might be especially appropriate for the higher-level relationships (such as interordinal), and it was possibly suitable for lower-level relationships as well. The same can be true for other eukaryotes.

Key words [RPL15 \(ribosomal protein L15\)](#); [phylogenetic analysis](#); [Teleostei](#)

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