

# 病毒microRNA 研究进展

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microRNA (miRNA) 是一类存在于多细胞生物中长约 21~24 nt 的非编码 RNA 分子, 它们与靶 mRNA 分子互补结合抑制蛋白翻译或导致 mRNA 降解, 从而调控靶基因表达。miRNA 已被证实在多种代谢途径中发挥重要作用, 调节包括细胞分化和分裂、细胞凋亡及癌症发生在内的多个细胞过程。利用生物信息学以及分子克隆的方法在线虫、哺乳动物以及植物中已发现超过 4000 条 miRNA。最近在病毒中也发现有 miRNA 基因存在, 通过对病毒 miRNA 靶基因的预测, 推测其在病毒复制过程中发挥重要的调控作用。目前病毒编码的 miRNA 分子的特点、转录机制、功能、进化保守性以及病毒与宿主 miRNA 的关系都已有一定的了解。对于病毒相关 miRNA 研究的深入, 将对认识病毒-宿主相互作用以及相关疾病的治疗带来新的启示。

## Viruses encoded microRNAs

microRNAs (miRNAs) represent a new class of noncoding RNAs (ncRNA) with 21-24 nt transcripts that play important roles in the regulation of translation and degradation of mRNAs through base pairing to complementary sites in mRNAs. The profound influences of miRNAs on diverse regulatory pathway such as cell division, differentiation, death, apoptosis and cancer have been demonstrated. There are more than 4 000 miRNAs have been found in nematodes, mammals and plants by computational methods or isolated by molecular cloning approaches. Recently, it has been confirmed that viruses also encode miRNAs. Viral miRNAs was suggested has important functions during replication by prediction of their potential targets. Recent findings on the characteristic, expression, function and conservation of virally encoded miRNA were summarized. Efforts to identification of novel viral miRNAs and their function may give important implications for recognize the virus-host interactions and therapy of related disease.

## 关键词

microRNA; RNAi; 病毒(virus)