

环状RNA在妇科恶性肿瘤中的研究进展

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Title: The latest research progress of circular RNA in gynecological oncology

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摘要: 环状RNA(circular RNA, circRNA)是一类不具有5'末端帽子和3'末端poly(A)尾巴,并以共价键形成环状结构的RNA分子,广泛存在于真核生物细胞中。近年来,随着高通量测序技术和生物信息学的发展,研究学者在各类细胞中检测到了大量内源性circRNA的表达,并发现其具有miRNA海绵、调控基因表达及翻译等生物学功能。越来越多的研究证实circRNA在胶质瘤、结直肠癌、膀胱癌等恶性肿瘤有显著的差异表达,发挥着癌基因或抑癌基因的作用,有望成为恶性肿瘤的新型诊断标记物、分子治疗靶点和预后评估指标。本文就circRNA的形成机制、生物学特性、功能及其在妇科恶性肿瘤领域的最新研究进展作一详细综述。

Abstract: Circular RNA(circRNA), prevalent among various eukaryotes, lack the 5' cap and 3' poly(A) tail, and maintain a circular structure by covalent bond. With the progress in bioinformatics and high-throughput sequencing, abundant endogenous circRNA have been detected in a large variety of cells. circRNA have been found to function as miRNA sponge and to regulate of gene transcription and translation. Significant differential expressions of circRNA have been found in malignancies including glioma, colorectal cancer, and bladder cancer. circRNA can be either oncogenic or tumor-suppressive, and are expected to be novel diagnostic biomarker, therapeutic target, or prognostic indicator. This review introduces circRNA's biogenesis, biological characteristics, function, and the latest progress of circRNA's study in gynecological oncology.

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备注/Memo: 辽宁省卵巢恶性肿瘤病例信息平台的建立及诊治技术规范推广项目(编号: LNCCC-A01-2015); 沈阳市科技计划人口与健康专项项目(编号: 17-230-9-10)

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