

急剧弯曲DNA柔韧性的研究进展

杨琨、侯森、冯喜增

1 南开大学生命科学学院分子生物学研究所

2 南开大学生命科学学院, 生物活性材料教育部重点实验室

摘要: 基因调控以及核小体和病毒的包装行为都会涉及DNA的急剧弯曲成环。DNA分子的环化是研究其本身柔韧性的主要方法。目前已经发展出很多研究DNA环化的模型, 其中WLC (worm-like chain) 模型较为成熟。本文综述了DNA环化的重要参数, 影响因素以及关于DNA急剧弯曲成环研究的最新进展。

The flexibility of sharply bent DNA

Abstract: DNA sharply bending is essential for gene regulation as well as the package of nucleosomes and viruses. The major process to study DNA instinctive flexibility is DNA cyclization assay. Up to date, many new models have been developed for DNA cyclization research. And the best one is the worm-like chain model. This paper will introduce important parameters about DNA cyclization assay, factors that influence DNA cyclization and new progress in DNA sharp bending field.

关键词

DNA急剧弯曲成环; (DNA sharp bending); J因子(J factor); DNA维持长度P(DNA persistence length P); DNA柔韧性(DNA flexibility.)