

综述

扩展的简单串联重复位点诱发突变在遗传毒理学的应用进展

梁春柳¹, 姚朗¹, 张天宝²

(1. 南方医科大学卫生毒理学教研室, 广东 广州 510515; 2. 第二军医大学卫生毒理学教研室, 上海 200433)

收稿日期 2010-11-15 修回日期 网络版发布日期 2011-10-10 接受日期 2011-2-25

摘要 扩展的简单串联重复 (ESTRs) 序列是基因组DNA上高不稳定的一类重复序列。由于其自发突变和诱发突变率高, 因而在生殖细胞诱发突变的研究中得到广泛的应用。随着研究的深入, 目前发现有3类重复序列——小卫星、微卫星和ESTRs, 主要通过系谱法和单分子PCR法来研究这些重复序列的变化。但迄今为止, 这些重复序列的突变机制还不明确。本文主要综述了目前国内外对这3种重复序列的异同、ESTRs突变研究方法的优缺点以及突变机制。

关键词 [串联重复序列](#) [等位基因](#) [突变](#) [系谱](#) [聚合酶链反应](#)

分类号 [Q394.6](#), [R965](#)

Expanded simple tandem repeat loci induced mutation in genetic toxicology and its progress

LIANG Chun-liu¹, YAO Lang¹, ZHANG Tian-bao²

(1. Department of Health Toxicology, Southern Medical University, Guangzhou 510515, China; 2. Department of Health Toxicology, the Second Military Medical University, Shanghai 200433, China)

Abstract

Expanded simple tandem repeats (ESTRs) are unstable tandem repetitive DNA loci, which are applied largely in induced mutation of germline, because of the high spontaneous mutation rate. So far, three types of repeat sequences have been found. They are named a small satellite, microsatellite and ESTRs, respectively. While pedigree and single-molecule PCR are used to monitor changes in repeat sequences. However, the mutation mechanisms of these repeat sequences are exactly unknown till now. So, in this paper reviewed, the similar and differences of three different repetitive loci, the advantages and disadvantages of the two methods, as well as the mutation mechanism were focused.

Key words [tandem repeat sequences](#) [alleles](#) [mutation](#) [pedigree](#) [polymerase chain reaction](#)

DOI: 10.3867/j.issn.1000-3002.2011.05.014

通讯作者 张天宝 tbzhang2001@yahoo.com.cn

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(348KB\)](#)

▶ [\[HTML全文\]\(OKB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“串联重复序列”的相关文章](#)

▶ 本文作者相关文章

· [梁春柳](#)

· [姚朗](#)

· [张天宝](#)