

综述

DNA酶 I 的研究进展

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摘要

1905年人类首次在牛胰腺中发现DNA酶 I。目前已发现DNA酶 I 存在6种编码蛋白的基因多态性、单核苷酸多态性和内含子4的可变串联重复序列。DNA酶 I 不仅水解双链DNA, 参与外源DNA的代谢、而且与细胞凋亡、坏死细胞染色质降解及系统性红斑狼疮、胃肠道肿瘤和心肌梗死发生密切相关。DNA酶 I 是亲子鉴定及犯罪学鉴定良好的生化标志物, 血清DNA酶 I 活性升高可以作为一种新的高敏感性的急性心肌梗死血标志物、酶表型分析可用于预测疾病易感性。

关键词 [DNA酶 I](#); [基因多态性](#); [心肌缺血](#); [生化标志物](#)

分类号

Research progress of DNase I

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Abstract

Deoxyribonuclease I (DNase I) was first discovered from cattle pancreas in 1905. Human DNase I exhibits polymorphisms at both the protein and the DNA levels. DNase I, preferentially attacking double-stranded DNA to produce oligonucleotides with 5' -phosphoryl and 3' -hydroxy termini, is considered to play a major role in digestion of dietary DNA. Furthermore DNase I has also been regarded as a candidate endonuclease responsible for internucleosomal DNA degradation during apoptosis and chromatin breakdown of necrotic cells. DNase I is considered to be one of the susceptibility genes for gastric and colorectal carcinoma, and myocardial infarction and related with the pathogenesis of system lupus erythematosus. With the development of research, DNase I was used in many fields, including forensic and clinically purposes. It is one of the best biochemical markers for paternity and criminological testing. Clinically, serum DNase I activity has been recommended to be used as a novel and sensitive marker for the early detection of acute myocardial infarction and transient myocardial ischemia.

Key words [deoxyribonuclease I](#) [gene polymorphism](#) [myocardial ischemia](#) [biochemical marker](#)

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