综述

RNA干扰在氧化代谢酶功能研究中的应用进展

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摘要　　RNA干扰(RNAi)是真核细胞内某些双链RNA能高效、特异地结合并降解互补mRNA, 阻断其基因的表达, 介导序列特异的基因沉默, 导致细胞出现特定基因表达缺失的表型。RNAi技术作为抑制策略具有特异性、选择性和高效性等优点, 被用于特异性的沉默细胞色素P450酶、脂氧合酶、环氧化酶和单胺氧化酶等氧化代谢酶的基因, 探讨这些酶对内、外源化学物的生物转化作用及其与某些疾病发生、发展和治疗的关系, 发现了一些代谢酶的新功能, 获得了对动脉粥样硬化、多囊卵巢综合征、肾病综合征以及多种癌症等疾病发生机制新的认识以及防治的新方法和新线索。

Progress in application of RNA interference in function of oxidative metabolism enzymes

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Abstract

RNA interference(RNAi) means that some double-stranded RNA can bind to complementary mRNA efficiently and specifically, degrade the complementary mRNA, block the gene expression of complementary mRNA, mediate sequence-specific gene silencing and form the phenotype without the expression of specific gene in cells. RNAi has the advantages of specificity, selectivity and efficiency as a gene suppression strategy, which is specifically used for the genes of oxidative metabolism enzymes, such as specific cytochrome P450 enzymes, lipoxygenase, cyclooxygenase and monoamine oxidase. Studies on biological transformation effect of these enzymes on *in vivo* and *in vitro* chemicals, and their relationship with the occurrence, development and treatment of certain diseases can facilitate the discovery of new functions of some enzymes, acquire some new understanding about the mechanism of some diseases, such as atherosclerosis, polycystic ovary syndrome, nephrotic syndrome and many kinds of cancers, and lead up to some new methods to prevent and treat these diseases.

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