

综述

表观遗传修饰在胚胎发育过程中的调控作用研究进展

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摘要 表观遗传修饰是生命现象中普遍存在的一类基因调控方式, 对维持哺乳动物正常生命活动至关重要。表观遗传修饰方式主要包括DNA甲基化、组蛋白乙酰化和组蛋白甲基化修饰, 通常协同调控基因表达, 且易受到营养和外界环境等多种环境因素的影响, 在胚胎正常发育中扮演重要角色。胚胎时期表观遗传修饰异常可能诱导胚胎甚至成年后多种疾病的发生。本文重点从DNA甲基化、组蛋白乙酰化和组蛋白甲基化修饰方面, 综述表观遗传修饰在基因调控、胚胎发育过程中的作用及其可能的临床意义。

关键词 [表观遗传学](#) [胚胎发育](#) [DNA甲基化](#) [组蛋白修饰](#) [基因表达](#)

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Progress in roles of epigenetic modifications in regulating embryonic development

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Abstract

Epigenetic modifications, a class of ubiquitous gene regulation patterns *e.g.* gametogenesis and embryonic development, are crucial for activities of living mammals. DNA methylation, histone acetylation and histone methylation are three main forms of epigenetic modifications. Generally, they coordinately regulate gene expression and are readily affected by multiple environmental factors, such as nutrition and xenobiotics. Moreover, they play important roles in embryonic development. Many embryonic even adult diseases may be due to abnormal epigenetic modifications during embryogenesis. The potential clinical significance of DNA methylation, histone acetylation and histone methylation on gene expression and embryonic development is reviewed.

Key words [epigenetics](#) [embryonic development](#) [DNA methylation](#) [histone modifications](#) [gene expression](#)

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