

研究报告

排卵后老化卵母细胞的染色体形态变化

于建宁, 王蒙, 王丹秋, 李少华, 邵根宝, 吴彩凤, 刘红林

南京农业大学动物科技学院, 南京 210095

收稿日期 2006-5-30 修回日期 2006-7-12 网络版发布日期 2007-1-9 接受日期

摘要

小鼠排卵后的卵母细胞停滞在MII期, 如果此时的卵母细胞未能及时受精, 随着在输卵管中停留时间的延长, 卵母细胞会逐渐发生老化。这种卵母细胞的老化会导致包括人在内的哺乳动物的胚胎发育异常, 所以很有必要研究排卵后卵母细胞的老化机理。本实验主要研究小鼠排卵后的卵母细胞在体内老化过程中的染色体形态变化, 发现随着老化时间的延长, 有更高比例(65%, hCG后34 h)的卵母细胞的染色体呈不对称和松散的状态, 进一步研究表明, 这种染色体的变化可能与H3K14、H4K16的乙酰化升高, 及H3K9的甲基化降低有关。

关键词 [卵母细胞](#) [老化](#) [染色体](#) [组蛋白](#) [乙酰化](#) [甲基化](#)

分类号

Chromosome changes of aged oocytes after ovulation

YU Jian-Ning, WANG Meng, WANG Dan-Qiu, LI Shao-Hua, SHAO Gen-Bao,
WU Cai-Feng, LIU Hong-Lin

College of Animal Science and Technology, Nanjing Agricultural University, Nanjing 210095, China

Abstract

<P>In mouse, matured oocytes are arrested at metaphase-II (MII) after ovulation. If the MII oocytes are not fertilized on time, they will increasingly become aged in the oviduct. The aging of oocytes can lead to abnormal development of embryos. So it is important to study the mechanism of oocyte aging. Herein, we studied the change of oocyte chromosome after ovulation into the oviduct in vivo. Results indicated that 65% of old oocytes (34 h post hCG) showed aberrant MII, with chromosome misalignment and dispersal, in contrast to the young oocytes (14 h post hCG). In addition, chromosome changes may be associated with the increase of acetylation of histone 3 and histone 4, at lysine 14 and lysine 16 (H3K14 and H4K16), respectively. On the other hand, the decrease of methylation of histone 3 at lysine 9 (H3K9) presumably facilitated aberrant chromosome formation.</P>

Key words [oocyte](#) [aging](#) [chromosome](#) [histone](#) [acetylation](#) [methylation](#)

DOI: 10.1360/yc-007-0225

通讯作者 刘红林 liuhonglin@263.net

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(0KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [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“卵母细胞”的相关文章](#)
- ▶ [本文作者相关文章](#)

- [于建宁](#)
- [王蒙](#)
- [王丹秋](#)
- [李少华](#)
- [邵根宝](#)
- [吴彩凤](#)
- [刘红林](#)