中国农业科技导报 2009, 11(6) 50-54 DOI: ISSN: 1008-0864 CN: CN 11-3900/S

863课题进展

牛早期胚胎发育中差异基因的表达研究

张鑫,陈苏仁,栗雪冰,刘东军,仓明

(内蒙古大学哺乳动物生殖生物学及生物技术教育部重点实验室, 呼和浩特 010021)

摘要:

利用mRNA差异显示技术成功筛选到牛早期胚胎差异表达的3个基因,即calm3、trm112l和clip1,并通过RT-PCR技术检测了各基因在卵母细胞、8细胞期和囊胚期的表达情况。结果显示,在卵母细胞和8细胞期胚胎,基因calm3和trm112l的表达量无显著性差异,而在囊胚期的表达量与前两个时期的表达量存在显著性差异,推测这两个基因在牛胚胎发育过程中的表达可能属于母型调控, 提示该基因在卵母细胞成熟和合子基因激活中起一定作用。基因clip1在牛卵母细胞、8细胞期和囊胚期的表达量均无显著性差异,可能既存在母型调控又存在合子型调控。基因calm3、trm112l和clip1在牛早期胚胎发育过程中mRNA表达量存在时间性差异,可能与其参与不同的生理活动有关。

关键词: 胚胎发育;mRNA差显技术;胚胎;基因

Studies on Differential Expression Genes |in Bovine Preimplantation Embryos

ZHANG Xin, CHEN Su-ren, LI Xue-bing, LIU Dong-jun, CANG Ming

(Key Laboratory of Mammalian Reproductive Biology and Biotechnology, Ministry of Education, Inner Mongolia University, Hohhot 010021, China)

Abstract:

Three genes with differential expression in bovine peimplantation embryos, namely calm3, trm112l and clip1, were gained by mRNA differential display technology. The expression of calm3, trm112l and clip1 mRNA in oocyte, 8-cells stage embryos and blastocysts were detected by RT-PCR. The results showed that the expression of calm3 and trm112l genes had no remarkable differences in oocytes and 8-cells stage embryos, but were significantly different in blastocysts. It was supposed that these two genes were possibly maternal genes, and they might be involved in oocyte maturation and zygotic genome activation. The expression of clip1 gene in oocytes, 8-cell stage embryos and blastocysts did not have distinct difference. The gene calm3, trm112l and clip1 were temporal-differentially expressed genes of bovine preimplantation embryos. This might be related to their participation in different physiological activities.

Keywords: embryo development mRNA differential display embryos gene

收稿日期 2009-07-28 修回日期 2009-11-02 网络版发布日期 2009-11-27

DOI:

基金项目:

国家863计划项目（2008AA101007）;国家基础科学人才培养基金项目(J0730648);国家自然科学基金项目（30760168）资助。

通讯作者: 仓明,副研究员,博士,主要从事哺乳动物生殖生物学及生物技术领域研究。Tel:0471-4992443;E-mail:cangming1970@yahoo.com.cn

作者简介: 张鑫,大学生,研究方向为动物生殖生物学。E-mail:nmgdxzhangxin@sina.com

作者Email:

参考文献:

本刊中的类似文章

文章评论

反馈人		邮箱地址	
反馈标题		验证码	7141