

عنوان مقاله:

Quantitative expression of developmental genes, Pou5f1 (Oct4) and Mest (Peg1), in vitrified mouse embryos

محل انتشار:

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خلاصه مقاله:

Background: Embryo cryopreservation is the process that water is removed from the cell by cryoprotectant materials, and embryos are stored at temperature below zero. This process may affect the viability and developmental potential of embryos. Objective: In this study, the effect of the vitrification cryotop method on the expression level of Oct4 and Mest developmental genes in mouse blastocysts was examined. Materials and Methods: The collected 2-cell embryos of superovulated mouse by oviduct flushing were divided into non-vitrified and vitrified groups. These embryos were cultured to the blastocyst stage directly in the non-vitrified group and in the vitrified group, these embryos were cultured to 4-8 cell embryos, vitrified with cryotop in these stages and after 2-6 months, warmed and cultured to blastocyst embryos. Quantitative expression of two developmental genes, namely Oct4 and Mest, were performed in these groups, using RNA purification and Real-time RTPCR. Results: Quantitative PCR analysis showed that the expression level of both genes, Oct4 and Mest, was reduced significantly in the vitrified-warmed group relative to the control group ($p=0.046$ and $p=0.001$). Conclusion: This study revealed that morphologically normal embryos show a reduced amount of Oct4 and Mest transcripts which indicate that the vitrification method negatively effects the expression level of these two developmental genes

کلمات کلیدی:

Mice, Blastocyst, Vitrification, Oct4, Mest

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