P-65

Embryo Development Following Inter-subfamily Nuclear Transfer of Siberian Tiger (Panthera tigris altaca) Somatic Cells into Domestic Cat (Felis silverstris catus) Cytoplasts

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Wildlife conservation requires traditional as well as innovative conservation strategies in order to preserve gene and species diversity. The purpose of this study was to examine the in vitro developmental potential of enucleated domestic cat (*Felis silverstris catus*) oocytes reconstructed with skin fibroblasts from male siberian tiger (*Panthera tigris altaca*) skin tissue. Nuclear transfer was performed as previously described (Yin et al., 2005, Reproduction 129:245-249). Briefly, the cumulus oocyte complex of domestic cat were cultured in IVM medium under 38℃, 5% CO_2, for 12 h, and the matured oocytes were enucleated and individual donor cell was inserted into perivitelline space of enuceated oocyte. The couples were fused by electrostimulation (2 times DC, 2 KV/cm, 20 sec). The reconstructed embryos were activated by 2 times DC, 1 KV/cm, 20 sec and incubated in 2 ml 6-DMAP for 4 h. After activation, the embryos were cultured in 500 ul of CR-1 medium + 0.4% BSA under 5% CO_2 at 38℃ for 48 h. Total 240 (one, 2 and 4-cell stage) cloned embryos were transferred into one female Bengal tiger, previously synchronized with PMSG and hCG. However, there was no pregnancy established.

Keywords: ***siberian tiger, cat, somatic cell, nuclear transfer, inter-subfamily***
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