

P-16 Pregnancy of Somatic Cell Nuclear Transferred Hanwoo (Korean Cattle) Blastocysts Vitrified by Minimum Volume Cooling Method

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Objective: This study was to test whether the Hanwoo blastocysts derived from nuclear transfer (NT) with Hanwoo adult ear cell can be successfully cryopreserved by minimum volume cooling (MVC) method.

Materials and Methods: For the vitrification, day 7 or 8 NT blastocysts were pretreated in 10% ethylene glycol for 5~10 min, exposed in EG30 for 30 sec, each embryo was individually put on the inner wall of 0.25 ml straw, and then straw was directly plunged into LN₂. Thawing was taken by 4-step procedure (1.0 M sucrose (MS), 0.5 MS, 0.25 MS, and 0.125 MS) at 37°C. Survived NT embryos were transferred into uterus of Hanwoo recipients.

Results: After thawing, in vitro survival rate (88.9%) of NT group was not significantly different with that of control group (85.4%). After transfer of survived embryos (10, 2/each) in NT group, 4 of 5 total recipients did not return to the subsequent estrus cycle at 30 days, and pregnancy was monitored by ultrasound sonography. One recipient cow is ongoing pregnancy on 6 month.

Conclusions: It is concluded that the somatic cell NT Hanwoo blastocysts can be successfully cryopreserved by simple and efficient MVC method and that these embryos have in vivo developmental potentiality.

P-17 The Expression of Peptidylglycine-amidating Monooxygenase (PAM) in the Placenta of Pregnant Women

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Objective: High levels of oxytocin mRNA expression have been detected in human uterine tissue. Oxytocin precursors are present in much higher concentrations in the uterus than oxytocin itself. This implies that the enzymes necessary for conversion of oxytocin precursors to oxytocin might be missing or not active. The last step in the synthesis of oxytocin is the alpha amidation of the terminal glycine via the PAM. PAM is an enzyme needed for the synthesis of many peptides. The placenta produces many peptides that require amidation, including oxytocin. The purpose of the present study was to determine the presence of PAM in the human placenta, its variation with gestational age and cellular location within the placenta.