

SUMMARY

Vitrification is able to apply practically and it is economical. Aim of the study is investigation of accomplishment of freezing of in vitro embryos by vitrification.

100 good quality bovine in vitro embryos and compacted morula and blastocyst stage were frozen by vitrification method. Oocytes were provided ovaries from slaughtered cows seven days after culture.

Table 1. Composition of vitrification solutions

	Glycerol (%)	Ethylene Glycol (%)	Sucrose (M)	Xylose (M)	*PEG (%)
VS(1)	10	-	0.1	0.1	1
VS(2)	10	10	0.2	0.2	2
VS(3)	20	20	0.3	0.3	3

*PEG: Poly Ethylene Glycol

In thawing straws taken out from liquid nitrogen were hold in air for 5-6 sec. then in 20°C water, until all ice crystal melt. Embryos were transferred 0.5M and 0.25M sucrose solutions respectively for devitrification procedure. Embryos were transferred into m-PBS (with 20% calf serum) for morphological evaluation. TCM-199 + 0.1mM β -Mercaptoethanol + 20 % Calf Serum (CS) composition was used as culture media. For in vitro survival control, embryos were incubated in 5% CO₂, at 38.5°C and 99% humidity condition for 24-48 hours.

85 embryos intact ooplasm were obtained from 100 embryos after thawing in Phosphate Buffer Solution. The re-expansion and hatching rate of blastocysts were 35%. In vitro produced and vitrified embryos had survived 35% after thawing in culture.

As a result, in vitro produced embryos vitrified easily and provide satisfactory level survival.