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Correlations Between Expression of Cyclin B1 Levels and Development of Reconstructed Mouse Embryos

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To evaluate the correlations between the expression of cyclin B1 mRNA and protein after stimulation and oocyte activation and development of nuclear transferred mouse embryos, this study was performed.

The oocyte activation was induced by 7% ethanol or 10μg/mℓ Ca-ionophore without (single) or with (combined) 10μg/mℓ cycloheximide (CH). Cyclin B1 mRNA and protein in mouse oocytes was evaluated by PCR and western blot.

The activation and blastocyst development in both single ($P<0.05$) and combined ($P<0.01$) stimulation was higher than in non-activated group. The cyclin B1 mRNA and protein levels were significantly reduced in both single and combined stimulation groups ($P<0.05$), respectively. Cyclin B1 mRNA expression showed a negative correlation between activation and blastocyst development in both single and combined stimulation groups. And also the expression of cyclin B1 protein showed a negative correlation with between oocyte activation and blastocysts development in both single and combined stimulation groups.

In conclusion, it may suggest that single and combined stimulation increases the oocyte activation and blastocyst development of nuclear transferred embryos, because it induces the degradation of cyclin B1 mRNA and protein after activation in enucleated mouse oocytes.

Key Words) ***oocyte activation, nuclear transfer. cyclin B1***