

Fate of Parthenogenetic Mouse Embryos Aggregated with ES Cells

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The present study examined the developmental ability of embryonic stem (ES) cells aggregated with mouse parthenogenetic embryos. Oocytes obtained from superovulated female mouse (BCF1) were treated with 7% ethanol and 5 $\mu\text{g}/\text{ml}$ cytochalasin B (CB) for producing pathenotes and *in vitro* fertilized with fresh sperm for producing normal embryos. The reporter vector (pNeoEGFP) were inserted into ES cells (129S4/SvJae) by electroporation. At the 8-cell stage, *in vitro* fertilized embryos and pathenotes, which the zona pellucida was removed, were co-cultured with 5~10 ES cells for 4 hr. After *in vitro* fertilized embryos and parthenotes aggregated with ES cells were incubated to blastocyst stage, and these blastocysts transferred into the uterus of pseudopregnant recipients. The fertilized embryos aggregated with ES cells were successfully developed to offspring, but the parthenotes aggregated with ES cells failed to develop offsprings. However, genomic DNA of ES cells was detected in the pathenogenetic fetus by polymerase chain reactions at 15 day post gestation. In this study, results indicated that parthenotes aggregated with ES cells showed possible development to fetus. In the future, this method may help to produce transgenic chimera from parthenotes aggregated with ES cells.

Key words) *ES cell, Parthenote, Mouse*