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POSTER

Effect of Diutyryl-CAMP and follicle stimulating hormone on in vitro maturation of porcine oocyte

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Abstract

In this study, we examine the effects of dibutyryl cyclic adenosine monophosphate (dbcAMP) and follicle stimulating hormone (FSH) on the maturation of nucleus and cytoplasm of porcine oocytes after in vitro maturation. The oocytes-granulosa cell complexes (OCGs) were cultured in three different maturation media: basic, basic+dbcAMP, and basic+dbcAMP+FSH to investigate the cumulus expansion and maturation of the fully-grown oocytes. Treated mature oocytes underwent parthenogenetic activation to examine the quality of the mature oocytes via the development of embryos. The results showed that there was a higher rate of cumulus expansion and maturation between the combination of dbcAMP and FSH group (95.1% and 85.3%) compare with the none treatment or only dbcAMP treated group (40.8% and 47.7%; 44.9% and 42.9% respectively). The results in embryos development showed that mature oocyte cultured in dbcAMP and FSH group had a higher rate of the embryos developed to the 8-cell stage (49.2%) than in the none treated or only dbcAMP treated group (26.5% and 27.6%). These results confirmed that the combination of dbcAMP 1mM and FSH 0.01 IU/ml could increase the quality of the mature oocytes and improved the preimplantation development of parthenogenetic diploid embryos.

Keywords

porcine oocyte, in vitro maturation, parthenogenetic diploid embryos, cAMP, FSH

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References