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Parthenogenetic Activity of Porcine Sperm Factor to *In Vitro* Matured Porcine Oocyte

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Porcine sperm extract (PSE) supporting Ca^{2+} osillation was microinjected into the *in vitro* matured porcine oocytes. In the presence of the capacitative Ca^{2+} entry mechanism which can activate MII oocytes, preparation methods of sperm extraction were studied by many researchers. Such as freeze-thaw cycle, homogenation, sonication of boar sperm was used for certification of their activity of calcium signals. In this study, PSE was prepared by high pressure using French Press to disrupt boar sperm. Following extracts were concentrated to the concentration of 27.95 mg/ml by membrane concentrator of vivaspin 500 and the aliquents were preserved at - 80℃. The prepared PSE was injected into the cytoplasm of porcine oocyte matured for 44 hr at 38.5℃. The activation rate was judged by cleavage rate at day 2 and formation of blastocysts after the culture of PZM-5 medium. The cleavage rates was 38.3% in PSE-injected group and 7.1% in the vehicle injected group. The parthenogenetic blastocysts were produced at the rate of 6.1 % in injected group and 0.0 % in control. In conclusion, porcine sperm factors from the extracts prepared by French Press could be used for activation of oocyte. However, the signal mechanisms of activation remained for further study.

Key words: ***Sperm extract, Activation, porcine, Embryo***