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Calcium Signaling of M II Oocyte during Chemical Activation of Calcium Ionopore and Cytochalasin B

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The calcium ionophore (A23187) has been used for activation of porcine oocytes from *in vitro* maturation by many researches. The signaling of calcium was known to be a primary factor of activation of MII oocyte by calcium ionophore. The calcium level was measured by an intensity of fluo 4 fluorescence and confocal microscope. The level was increased by 7% ethanol or 70 μM calcium ionophore but oscillation was not found. The Ca^{2+} increase by calcium ionophore was also lasted longer over 5 min than ethanol treatment. The increased peak of calcium signal by calcium ionophore was downed for the three fourth of basal line but increased again to the over the maximal increase. After treatment of calcium ionophore or not, 7.5 μg/ml of cytochalasin B was treated to the samples and the signal of calcium increase was monitored with time lapse, but the increase was not induced by the treatment. These results indicated that the calcium signals by calcium ionophore that is enough for activating porcine oocyte are dual increasement with slightly single down and the second increase could be blocked by medium exchange.

Key words: ***Calcium, Calcium ionophore, Cytochalasin B, Activation, Porcine***